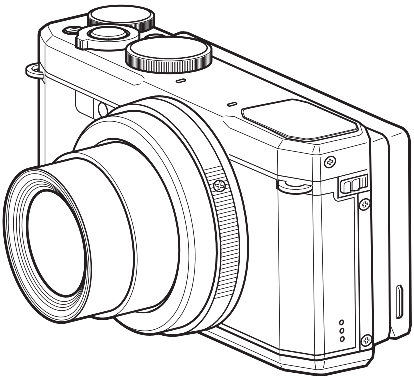
PENTAX
A RICOH COMPANY

EN

Digital Camera

PENTAX MX-1

Operating Manual



To ensure the best performance from your camera, please read the Operating Manual before using the camera.

Thank you for purchasing the PENTAX MX-1.
Please read this manual before using the camera in order to get the most out of all the features and functions. Keep this manual safe, as it can be a valuable tool in helping you to understand all the camera's capabilities.

Regarding copyrights

Images taken with this digital camera that are for anything other than personal enjoyment cannot be used without permission according to the rights as specified in the Copyright Act. Please take care, as there are cases where limitations are placed on taking pictures even for personal enjoyment during demonstrations, performances or of items on display. Images taken with the purpose of obtaining copyrights also cannot be used outside the scope of use of the copyright as laid out in the Copyright Act, and care should be taken here also.

Regarding trademarks

- SDXC logo is a trademark of SD-3C, LLC.
- HDMI, the HDMI logo, and High-Definition Multimedia Interface are trademarks or registered trademarks of HDMI Licensing, LLC in the United States and/or other countries.
- Eye-Fi, the Eye-Fi logo and Eye-Fi *connected* are trademarks of Eye-Fi, Inc.
- This product includes DNG technology under license by Adobe Systems Incorporated.
- The DNG logo is either a registered trademark or trademark of Adobe Systems Incorporated in the United States and/or other countries.
- Microsoft, Windows and Windows Vista are registered trademarks of Microsoft Corporation in the United States of America and other countries.
- Macintosh, Mac OS, and QuickTime are trademarks of Apple Inc., registered in the U.S. and other countries.
- Intel, Intel Core and Pentium are trademarks of Intel Corporation in the U.S. and/or other countries.
- This product is licensed under the AVC Patent Portfolio License for the personal use of a consumer or other uses in which it does not receive remuneration to (i) encode video in compliance with the AVC standard ("AVC video") and/or (ii) decode AVC video that was encoded by a consumer engaged in a personal activity and/or was obtained from a video provider licensed to provide AVC video. No license is granted or shall be implied for any other use.
  Additional information may be obtained from MPEG LA, LLC.
  See http://www.mpegla.com.
- All other trademarks are the property of their respective owners.

- This product supports PRINT Image Matching III. PRINT Image Matching enabled digital still cameras, printers and software help photographers to produce images more faithful to their intentions. Some functions are not available on printers that are not PRINT Image Matching III compliant.

  PRINT Image Matching is a trademark of Seiko Epson Corporation. The PRINT Image Matching logo is a trademark of Seiko Epson Corporation.

Regarding Product Registration
In order to better serve you, we request that you complete the product registration, which can be found on the CD-ROM supplied with the camera or the PENTAX website. Thank you for your cooperation.
Refer to “Connecting to a Computer” (p.194) for more information.

To users of this camera

- Do not use or store this camera in the vicinity of equipment that generates strong electromagnetic radiation or magnetic fields.
  Strong static charges or the magnetic fields produced by equipment such as radio transmitters could interfere with the display, damage the stored data, or affect the camera’s internal circuitry and cause camera misoperation.
- The liquid crystal panel used for the display is manufactured using extremely high precision technology. Although the level of functioning pixels is 99.99% or better, you should be aware that 0.01% or fewer of the pixels may not illuminate or may illuminate when they should not. However, this has no effect on the recorded image.
- There is a possibility that the illustrations and the screen display in this manual are different from the actual ones.
- In this manual, SD Memory Cards, SDHC Memory Cards, and SDXC Memory Cards are referred to as SD Memory Cards.
- In this manual, the generic term “computer(s)” refers to either a Windows PC or a Macintosh.
- In this manual, the term “battery(ies)” refers to any type of batteries used for this camera and its accessories.

Using Your Camera Safely

We have paid close attention to the safety of this camera. When using this camera, we request your special attention regarding items marked with the following symbols.

⚠ **Warning**	This symbol indicates that ignoring this item could cause serious personal injuries.
⚠ **Caution**	This symbol indicates that ignoring this item could cause minor or medium personal injuries, or loss of property.

About the Camera

⚠ Warning

- Do not disassemble or modify the camera. High voltage areas are present inside the camera, with the risk of electric shock.
- If the camera interior is exposed due to dropping or otherwise damaging the camera, never touch the exposed portion. There is a risk of electric shock.
- Wrapping the strap around a neck is dangerous. Take care that small children do not hang the strap around their necks.
- If any irregularities occur during use, such as smoke or a strange odor, stop use immediately, remove the battery or AC adapter, and consult a PENTAX Service Center. Continued use can cause a fire or electric shock.

⚠ Caution

- Do not place your finger over the flash when discharging the flash. You may burn yourself.
- Do not cover the flash with clothing when discharging the flash. Discoloration may occur.
- Some portions of the camera heat up during use. There is a risk of low temperature burns when holding such portions for long periods.
- Should the display be damaged, be careful of glass fragments. Also, be careful not to allow the liquid crystal to get on your skin, in your eyes or mouth.
- Depending on your individual factors or physical condition, the use of the camera may cause itching, rashes or blisters. In case of any abnormality, stop using the camera and get medical attention immediately.

About the Battery Charger and AC Adapter

⚠ Warning

- Always use the battery charger and AC adapter exclusively developed for this camera, with the specified power and voltage. Using a battery charger or AC adapter not exclusive to this camera, or using the exclusive battery charger or AC adapter with an unspecified power or voltage can cause a fire, electric shock, or camera breakdown. The specified voltage is 100 - 240V AC.

- Do not disassemble or modify the products. This can cause a fire or electric shock.
- If the generation of smoke or strange odor from the products or other abnormality occurs, immediately discontinue use and consult a PENTAX Service Center. Continued use can cause a fire or electric shock.
- If water should happen to get inside the products, consult a PENTAX Service Center. Continued use can cause a fire or electric shock.
- If you see a lightning flash or hear thunder during use of the battery charger or AC adapter, unplug the power plug and discontinue use. Continued use can cause damage to the product, fire, or electric shock.
- Wipe off the plug of the AC adapter if it should become covered with dust. Accumulated dust may cause a fire.

⚠ Caution

- Do not place or drop heavy objects on or forcefully bend the AC plug cord. Doing so may damage the cord. Should the cord be damaged, consult a PENTAX Service Center.
- Do not touch or short-circuit the terminal area of the AC plug cord while the cord is plugged in.
- Do not handle the power plug with wet hands. This can cause an electric shock.
- Do not drop the products, or subject them to violent impact. This can cause them to breakdown.
- Do not use the battery charger D-BC106 to charge batteries other than the rechargeable lithium-ion battery D-LI106. Attempting to charge other types of batteries may cause an explosion or heating, or may damage the battery charger.
- To reduce the risk of hazards, use only a CSA/UL certified power supply cord set, cord is Type SPT-2 or heavier, minimum NO.18 AWG copper, one end with a molded-on male attachment plug cap (with a specified NEMA configuration), and the other is provided with a molded-on female connector body (with a specified IEC non-industrial type configuration) or the equivalent.

About the Rechargeable Lithium-ion Battery

⚠ Warning

- Be sure to store the battery out of the reach of small children. Placing the battery in their mouths may cause an electric shock.
- If any leakage from the battery should come in contact with your eyes, do not rub them. Flush your eyes with clean water and get medical attention immediately.

⚠ Caution

- Only use the specified battery with this camera. Use of other batteries may cause an explosion or fire.
- Do not disassemble the battery. This may cause an explosion or leakage.
- Remove the battery from the camera immediately if it becomes hot or begins to smoke. Be careful not to burn yourself during removal.
- Keep wires, hairpins, and other metal objects away from the (+) and (-) contacts of the battery.
- Do not short the battery or dispose of the battery in fire. This can cause an explosion or fire.
- If any leakage from the battery should come in contact with skin or clothing, it may cause irritation to the skin. Wash the affected areas thoroughly with water.
- Precautions for D-LI106 Battery Usage:
  USE SPECIFIED CHARGER ONLY.
  - RISK OF FIRE AND BURNS.
  - DO NOT INCINERATE.
  - DO NOT DISASSEMBLE.
  - DO NOT SHORT CIRCUIT.
  - DO NOT EXPOSE TO HIGH TEMP. (140°F/60°C)
  - SEE MANUAL.

Keep the Camera and its Accessories out of the Reach of Small Children

⚠ Warning

- Do not place the camera and its accessories within the reach of small children.
  1. If the product falls or is operated accidentally, it may cause serious personal injuries.

2. Wrapping the strap around a neck may cause suffocation.
3. To avoid the risk of a small accessory such as the battery or SD Memory Cards from being swallowed by mistake, keep them out of the reach of small children. Seek medical attention immediately if an accessory is accidentally swallowed.

Care to be Taken During Handling

Before Using Your Camera

- When traveling, take the Worldwide Service Network listing that is included in the package. This will be useful if you experience problems abroad.
- When the camera has not been used for a long time, confirm that it is still working properly, particularly prior to taking important pictures (such as at a wedding or when traveling). Contents of the recording cannot be guaranteed if recording, playback or transferring your data to a computer, etc. is not possible due to a malfunction of your camera or recording media (SD Memory Card), etc.
- The lens on this camera is not interchangeable. The lens is not removable.

About the Battery and Charger

- To keep the battery in optimum condition, avoid storing it in a fully charged state or in high temperatures.
- If the battery is left inserted and the camera is not used for a long time, the battery will over-discharge and shorten the battery's life.
- Charging the battery a day before use or on the day of use is recommended.
- The AC plug cord provided with this camera is developed exclusively for the battery charger D-BC106. Do not use it with other devices.

Precautions on Carrying and Using Your Camera

- Do not subject the camera to high temperatures or high humidity. Do not leave the camera in a vehicle, as the temperature can get very high.
- Do not subject the camera to strong vibrations, shocks, or pressure. Use a cushion to protect the camera from vibrations of motorcycles, automobiles, or ships. If the camera is subjected to substantial vibrations, shocks or pressure, take your camera to your nearest PENTAX Service Center and have it checked.

- The temperature range for camera use is 0°C to 40°C (32°F to 104°F).
- The display may appear black at high temperatures, but will return to normal at normal temperatures.
- The display may respond more slowly at low temperatures. This is due to liquid crystal properties, and is not a malfunction.
- Sudden temperature changes will cause condensation on the inside and outside of the camera. Place the camera in your bag or a plastic bag, and remove it after the temperatures of the camera and surroundings are equalized.
- Avoid contact with garbage, mud, sand, dust, water, toxic gases, or salt. These could cause the camera to breakdown. Wipe the camera to dry off any rain or water drops.
- Do not press the display with excessive force. This could cause it to break or malfunction.
- Be careful not to overtighten the tripod screw when using a tripod.

Cleaning Your Camera

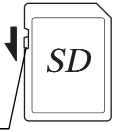
- Do not clean the camera with organic solvents such as thinner, alcohol or benzine.
- Use a lens brush to remove dust accumulated on the lens. Never use a spray blower for cleaning as it may damage the lens.

Storing Your Camera

- Do not store the camera with preservatives or chemicals. Storage in high temperatures and high humidity can cause mold to grow on the camera. Remove the camera from its case and store it in a dry and well-ventilated location.
- Avoid using or storing the camera where it may be exposed to static electricity or electrical interference.
- Avoid using or storing the camera in direct sunlight or where it may be exposed to rapid changes in temperature or to condensation.
- Periodic inspections are recommended every one to two years to maintain high performance.

Other Precautions

- The SD Memory Card is equipped with a write-protect switch. Setting the switch to LOCK prevents new data from being recorded on the card, the stored data from being deleted, and the card from being formatted by the camera or computer. 🔒 appears on the display when the card is write-protected.



- Care should be taken when removing the SD Memory Card immediately after using the camera, as the card may be hot.
- Keep the battery/card cover closed and do not remove the SD Memory Card or turn the camera off while the data is being played back or saved to the card, or the camera is connected to a computer with the USB cable, as this may cause the data to be lost or the card to be damaged.
- Do not bend the SD Memory Card or subject it to violent impact. Keep it away from water and store away from high temperature.
- Do not remove the SD Memory Card during formatting as this may damage the card and render it unusable.
- The data on the SD Memory Card may be lost in the following circumstances. We do not accept any liability for data that is deleted
  (1) when the SD Memory Card is mishandled by the user.
  (2) when the SD Memory Card is exposed to static electricity or electrical interference.
  (3) when the SD Memory Card has not been used for a long time.
  (4) when the SD Memory Card is ejected or the battery is removed while the card is being accessed.
- If it is not used for a long time, the data on the card may become unreadable. Be sure to regularly make a backup of important data on a computer.
- Be sure to format SD Memory Cards that are unused or have been previously used on another camera.
- Please note that deleting data, or formatting the SD Memory Cards or the built-in memory does not completely erase the original data. Deleted files can sometimes be recovered using commercially available software. It is user's responsibility to ensure the privacy of such data.

Contents

Taking Pictures 53

Memo

Composition of the Operating Manual

This Operating Manual contains the following chapters.

1 Getting Started

This chapter explains what you need to do after purchasing the camera before you start taking pictures. Be sure to read this chapter and follow the instructions.
Common operations such as the functions of the buttons and how to use the menus are also explained in this chapter.

2 Taking Pictures

This chapter explains the various ways of capturing images and how to set the relevant functions.

3 Playing Back and Deleting Images

This chapter explains how to view still pictures and movies on the camera or on a TV screen and how to delete them from the camera.

4 Editing and Printing Images

This chapter explains how to edit still pictures on the camera and how to print them.

5 Settings

This chapter explains how to set the camera-related functions.

6 Connecting to a Computer

This chapter explains how to connect the camera to a computer, and includes installation instructions and a general overview of the provided software.

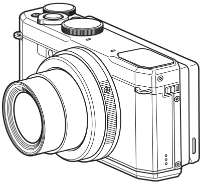
7 Appendix

This chapter explains troubleshooting and provides various resources.

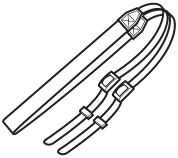
The meanings of the symbols used in this Operating Manual are explained below.

☞	indicates the reference page number for an explanation of the related operation.
memo	indicates information that is useful to know.
Caution	indicates precautions to be taken when operating the camera.

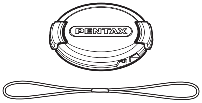
Checking the Contents of the Package



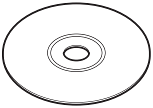
Camera
PENTAX MX-1



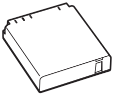
Strap
O-ST130 (*)



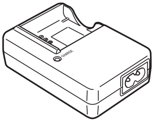
Lens cap O-LC130 (*)



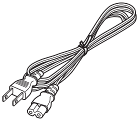
Software (CD-ROM)
S-SW130



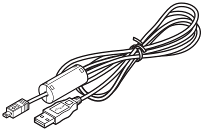
Rechargeable lithium-ion
battery D-LI106 (*)



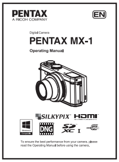
Battery charger
D-BC106 (*)



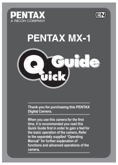
AC plug cord (*)



USB cable
I-USB7 (*)



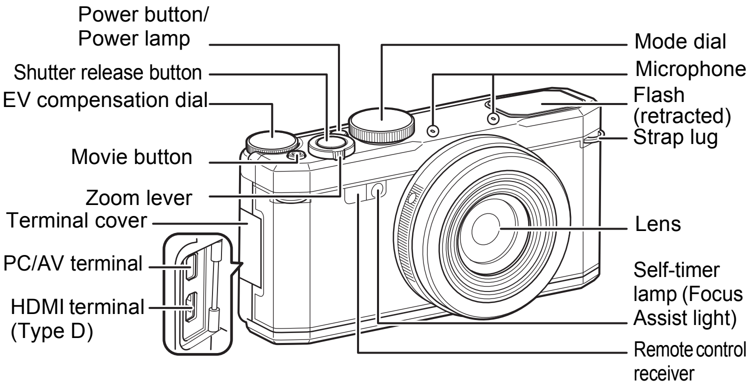
Operating Manual
(this manual)

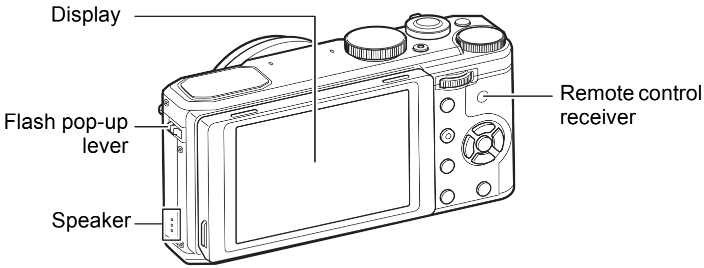


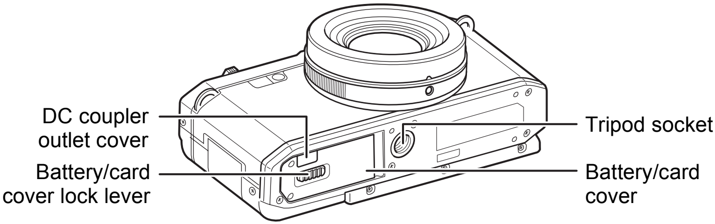
Quick Guide

Items marked with an asterisk (*) are also available as optional accessories.

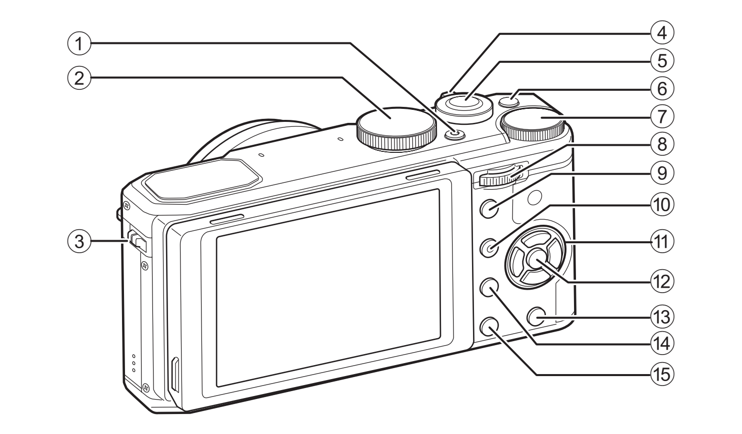
Names and Functions of Parts







Functions in Shooting



① **Power button**
Turns the camera off (p.46).

② **Mode dial**
Changes capture mode (p.68).

③ **⚡ (Flash pop-up) lever**
Pops the flash up.

④ **Zoom lever**
Changes the captured area (p.60).

⑤ **Shutter release button**
Captures images (p.55).

⑥ **Movie button**
Starts movie recording when the mode dial is set to a position other than 🎥 (p.116).

⑦ **EV compensation dial**
Sets the EV compensation value (p.95).

⑧ **E-dial**

Changes the sensitivity (p.94), shutter speed, and aperture value (p.72).
It is also used to select certain menus or items.

⑨ **AV/AE-L button**

When you press this button in capture mode, the current exposure amount is saved in memory of the camera (AE Lock) (p.96).
When the capture mode is **M** (Manual Exposure), specify either the shutter speed or the aperture value to be set with the e-dial (p.73).

⑩ **⦿/🗑 (Green/Delete) button**

Press to delete images (p.123) or reset the set value.
When you press the button in **M** (Manual Exposure) mode, the shutter speed, aperture and sensitivity are adjusted according to the program line so that the optimum exposure is obtained.

⑪ **Four-way controller**

- ▲ Changes the drive mode (p.87).
- ▼ Changes the sensitivity (p.94).
- ◀ Changes the flash mode (p.84).
- ▶ Changes the focus mode (p.89).

When the control panel or a menu screen is displayed, use the controller to change the cursor position or item selection.

⑫ **OK button**

When the control panel or a menu screen is displayed, press this button to activate the selected item.
This button is also used to change the information on the display (p.22).

⑬ **MENU button**

Displays the [📷 Rec. Mode] menu in still-picture capture mode (p.63).
Displays the [🎥 Movie] menu in movie mode (p.66).

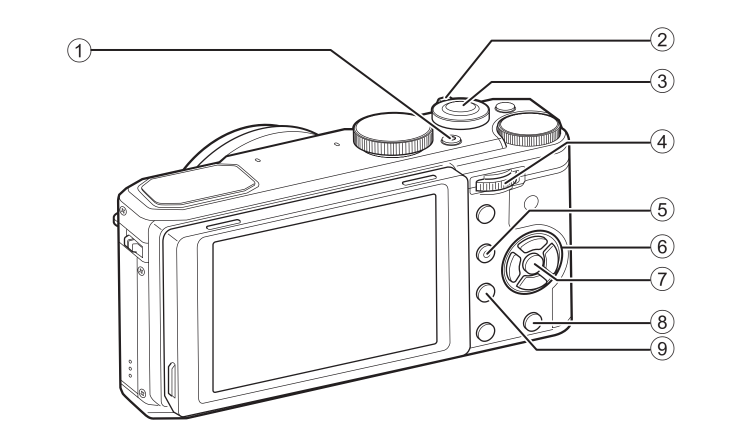
⑭ **▶ button**

Switches to the ▶ mode (p.21).

⑮ **INFO button**

Displays the control panel (p.35).

Functions in Playback



① **Power button**
Turns the camera off (p.46).

② **Zoom lever**
Enlarges the playback image (p.131) or activates the multi-image display (p.125).
Adjusts the sound volume in movie playback (p.124).

③ **Shutter release button**
Switches to 📷 mode (p.21).

④ **E-dial**
Enlarges the playback image (p.131) or activates the multi-image display (p.125).
Adjusts the sound volume in movie playback (p.124).

⑤ **⦿/🗑 (Green/Delete) button**
Press to delete images or reset the set value.
If the button is pressed when an image is enlarged, the center of the image is displayed.

⑥ **Four-way controller**

Changes the cursor position or the items on a menu or playback screen.
When you press the four-way controller (▼), the Playback Mode Palette is displayed (p.127).

⑦ **OK button**

Activates the selected item on a menu or playback screen.

⑧ **MENU button**

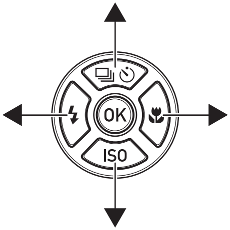
Displays the [🔧 Setting] menu during single-image display (p.169).
Returns to single-image display during Playback Mode Palette display.

⑨ **▶ button**

Switches to 📷 mode (p.21).

Description of the Four-way Controller

In this manual, the four-way controller is shown as follows:



To Switch Between Capture Mode and Playback Mode

In this manual, the capture mode, such as for taking still pictures and recording movies, is referred to as "📷 mode", "capture mode" or "shooting mode". (The mode for taking still pictures is specified as "still-picture capture mode", and that for recording movies as "movie mode".)
The playback mode, such as for displaying captured images on the display, is referred to as "▶ mode" or "playback mode". In ▶ mode, you can perform simple editing operations on the captured images.
Follow the procedure below to switch between 📷 mode and ▶ mode.

To Switch from 📷 Mode to ▶ Mode

Press the ▶ button.

To Switch from ▶ Mode to 📷 Mode

Press the ▶ button or the shutter release button.

> **Displaying the data stored in the built-in memory**
>
> When an SD Memory Card is inserted in the camera, images and movies on the SD Memory Card are displayed. If you want to display images and movies in the built-in memory, turn the camera off and remove the SD Memory Card.
>
> Caution: Make sure that the camera is turned off before inserting or removing the SD Memory Card.

Indications on the Display

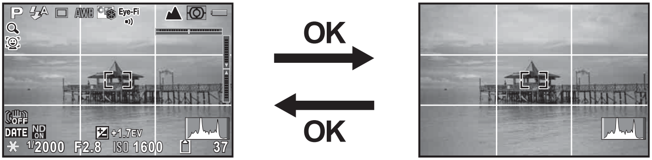
A variety of information appears on the display depending on the status of the camera.

memo: The brightness and the tone of colors of the display can be adjusted. (p.185)

Display in Shooting Mode

The display shows information such as the shooting conditions in shooting mode. The display changes each time you press the **OK** button.

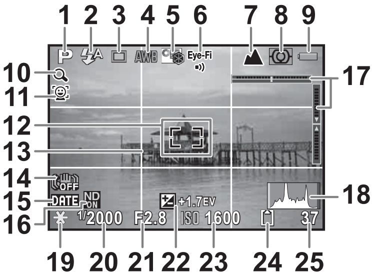
Standard display **No Info.**



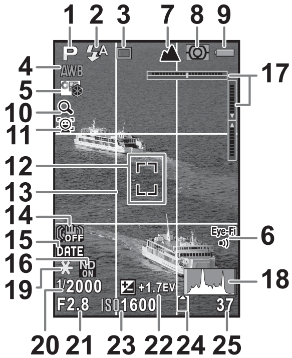
Standard display

All items displayed in still-picture capture mode are shown here for explanatory purposes. The actual display may differ.

Landscape display



Portrait display



1 Capture Mode (p.68)
2 Flash Mode (p.84)
3 Drive Mode (p.87)
4 White Balance (p.100)
5 Custom Image (p.110)
6 Eye-Fi communication status (p.185)
7 Focus Mode (p.89)
8 AE Metering (p.97)
9 Battery level (p.41)
10 Digital Zoom/Intelligent Zoom icon (p.60)
11 Face Detection icon (p.58)
12 Focusing Area (p.91)
13 Grid Display (p.188)
14 Shake Reduction icon (p.106)
15 Date Imprint setting (p.112)
16 ND Filter (p.105)
17 Electronic Level (p.31)
18 Histogram (p.27)
19 AE Lock (p.96)
20 Shutter speed (p.71)
21 Aperture value (p.71)
22 EV compensation value (p.95)
23 Sensitivity (p.94)
24 Memory status (p.47)
25 Remaining image storage capacity

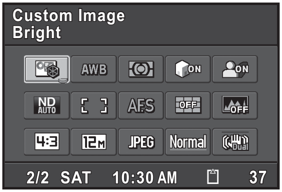
* In No Info. mode, only “12 Focusing Area” and “18 Histogram” are displayed.
* During movie recording, “17 Electronic Level” and “18 Histogram” are not displayed.

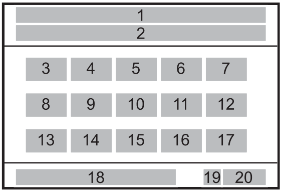
Switching the display between Landscape (horizontally long) and Portrait (vertically long) mode in shooting
Holding the camera vertically for capturing a still picture automatically switches the display to Portrait mode.
The display is not switched to Portrait mode in movie recording and playback.

Control Panel Display

Pressing the **INFO** button in capture mode displays the control panel, which enables you to change the camera settings.

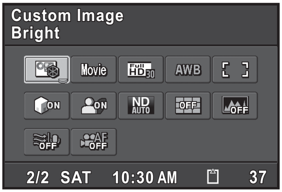
(Still-Picture Capture) mode

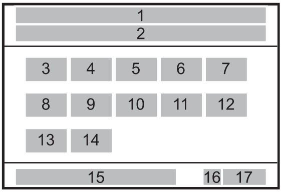




1 Function name
2 Setting
3 Custom Image (p.110) /Scene Mode (p.69)
4 White Balance (p.100)
5 AE Metering (p.97)
6 Highlight Correction (p.104)
7 Shadow Correction (p.104)
8 ND Filter (p.105)
9 Focusing Area (p.91)
10 AF Mode (p.92)
11 Grid Display (p.188)
12 Histogram (p.188)
13 Aspect Ratio (p.98)
14 JPEG Recorded Pixels (p.99)
15 File Format (p.99)
16 JPEG Quality (p.100)
17 Shake Reduction (p.106)
18 Current date and time (p.51)
19 Memory status (p.47)
20 Remaining image storage capacity

(Movie Recording) mode





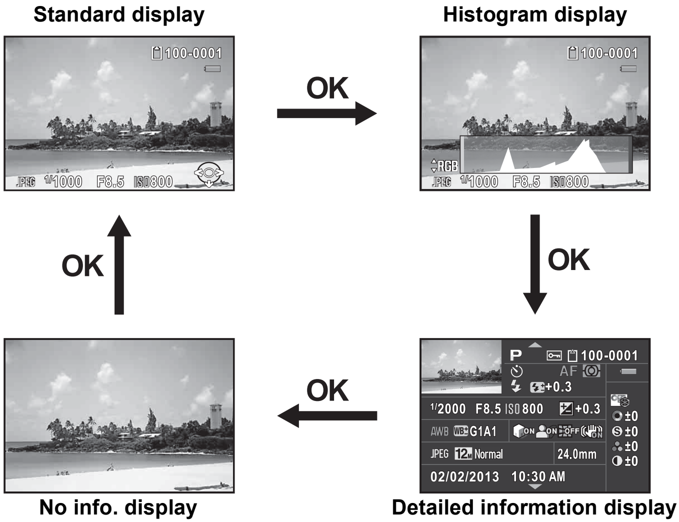
1 Function name
2 Setting
3 Custom Image (p.118)
4 Movie Mode (p.113)
5 Movie Recorded Pixels (p.118)
6 White Balance (p.100)
7 Focusing Area (p.91)
8 Highlight Correction (p.104)
9 Shadow Correction (p.104)
10 ND Filter (p.105)
11 Grid Display (p.188)
12 Histogram (p.188)
13 Wind Suppression (p.119)
14 Enable Autofocus (p.120)
15 Current date and time (p.51)
16 Memory status (p.47)
17 Remaining image storage capacity

memo

- Settings that cannot be changed due to the current camera setup cannot be selected.
- If no operations are made on the control panel for one minute, the standard display will be resumed.
- For more information about the display in capture mode, refer to “Setting the Display in Capture Mode (LCD View Options)” (p.188).

Display in Playback Mode

Pressing the **OK** button during playback switches the type of information displayed.



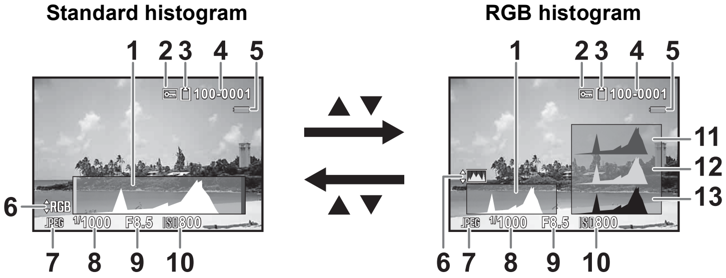
Standard display	Captured image, file format and operation guide indicators are displayed.
Histogram display	Captured image and histogram (Standard/RGB) are displayed (p.27). Not available during movie playback.
Detailed information display	Detailed information (p.28) on how and when the image was taken and copyright information (p.29) on captured image are displayed. Use the four-way controller (▲▼) to switch between the detailed information and copyright information.
No Info. display	Only the captured image is displayed.

memo

Information first displayed in playback is that displayed last in the previous operation.
When you set [DISPLAY] to □ (Off) with [Memory] (p.121) in the [📷 Rec. Mode 3] menu, the standard display always appears first each time the camera is turned on.

Histogram Display

In still-picture playback, two types of histogram for the image can be displayed: "Standard histogram" which indicates the distribution of brightness and "RGB histogram" which indicates the distribution of color intensity. Use the four-way controller (▲▼) to switch between "Standard histogram" and "RGB histogram."



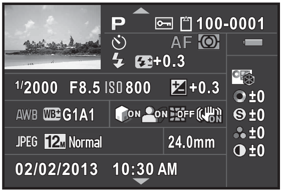
1	Histogram (Standard)	**7**	File format
2	Protect setting	**8**	Shutter speed
3	Memory status	**9**	Aperture value
4	Folder number-File number	**10**	ISO sensitivity
5	Battery level	**11**	Histogram (R)
6	RGB histogram/Standard histogram switch	**12**	Histogram (G)
		13	Histogram (B)

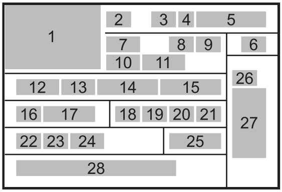
* Indicator 2 appears only for protected images.

memo: Extremely bright (overexposed) portions in the playback image blink red (except when RGB histogram, Detailed information, or Copyright information display mode).

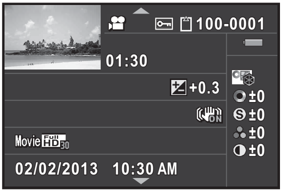
Detailed Information Display

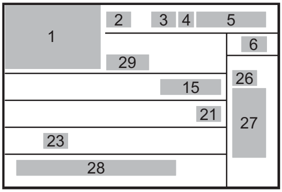
Still picture





Movie





1 Captured image
2 Capture Mode (p.68)
3 Protect setting (p.135)
4 Memory status (p.47)
5 Folder number-File number (p.177)
6 Battery level (p.41)
7 Drive Mode (p.87)
8 Focus Mode (p.89)
9 AE Metering (p.97)
10 Flash Mode (p.84)
11 Flash Output Compensation (p.86)
12 Shutter speed (p.71)
13 Aperture value (p.71)
14 Sensitivity (p.94)
15 EV compensation value (p.95)
16 White Balance (p.100)
17 White Balance fine-tuning (p.103)
18 Highlight Correction (p.104)
19 Shadow Correction (p.104)
20 Distortion Corr. (Correction) (p.106)
21 Shake Reduction (p.106) / Movie SR (p.119)
22 File Format (p.99)
23 JPEG Recorded Pixels (p.99) / Movie Recorded Pixels (p.118)
24 JPEG Quality (p.100)
25 Lens focal length
26 Custom Image mode (p.110)
27 Custom Image parameters (p.111)
28 Shooting date and time
29 Movie recording duration

* Indicators 10 and 11 appear only for images taken with the flash.
* Indicators 17, 18, 19, and 20 appear only for images taken with the corresponding functions enabled.
* Indicators 23 and 24 do not appear for RAW images.

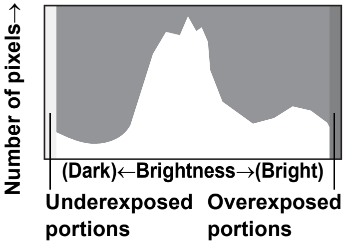
Copyright Information Display



1 Captured image
2 Protect setting (p.135)
3 Memory status (p.47)
4 Folder number-File number (p.177)
5 Battery level (p.41)
6 Photographer's icon
7 Photographer (p.181)
8 Copyright Holder's icon
9 Copyright Holder (p.181)

Using the Histogram

A histogram shows the brightness distribution of an image. The horizontal axis indicates the brightness (dark at the left and bright at the right) and the vertical axis indicates the corresponding number of pixels.

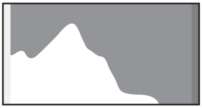


The shape and distribution of the histogram before and after shooting tell you whether the exposure level and contrast are correct or not, and let you decide if you need to adjust the exposure and take a picture again.

To Adjust the Exposure ☞p.95
Compensating for Brightness (D-Range Setting) ☞p.104

Understanding Brightness

If the image is normal in brightness with no extremely bright or dark portions, the graph peaks in the middle. If the image is underexposed, the peak is on the left side, and if it is overexposed, the peak is on the right side.



Dark image

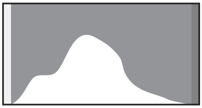
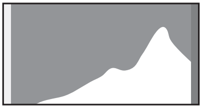


Image with few bright or dark areas



Bright image

When the image is underexposed, the part to the left is cut off (dark portions) and when the image is overexposed, the part to the right is cut off (bright portions).
This camera can warn for bright portions by red flashing in shooting and in playback.

Setting the Display in Capture Mode (LCD View Options) ☞p.188
Setting the Instant Review ☞p.109

Understanding Color Balance

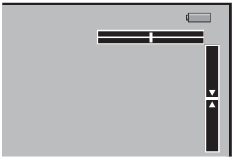
Distribution of color intensity is displayed for each color in RGB histogram display.
If a color is partially cut off on one side, it indicates that the color is under- or overexposed, that the light is very weak or strong in that color, or that the white balance is incorrect.

Setting the White Balance ☞p.100

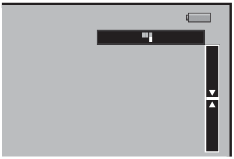
Electronic Level Indication

This camera is equipped with an electronic level for detecting whether the camera is level.
When you set [Electronic Level] to ☑ (On) with [LCD View Options] in the [📷 Rec. Mode 3] menu, the electronic level is displayed in standard display mode, showing tilt of the camera. Any tilt with respect to the level is shown on the horizontal bar graph and any tilt with respect to the perpendicular is shown on the vertical bar graph. The amounts of tilt are indicated with the marks and the colors of the bar graphs.

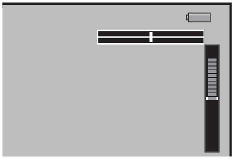
Examples



Horizontally and vertically level (green)



Tilted to the right by 1° (yellow)
Vertically level (green)



Horizontally level (green)
Tilted upward by 5° (red)



Difficult to gauge the horizontal tilt (red)
Difficult to gauge the vertical tilt (red)

memo: The electronic level indication is provided as a guide. It does not guarantee the precise level.

Guide Indications

A guide indication for each available button/key operation appears as follows on the display during operation.

▲	Four-way controller (▲)
▼	Four-way controller (▼)
◀	Four-way controller (◀)
▶	Four-way controller (▶)
MENU	**MENU** button

OK	**OK** button
SHUTTER	Shutter release button
INFO	**INFO** button
⦿ / 🗑	Green/Delete button
(E-dial icon)	E-dial

How to Change Function Settings

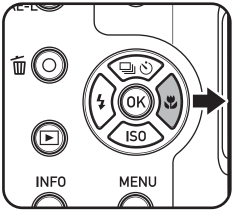
Function settings of the camera can be changed using the direct keys, menus or control panel.
This section explains the basic ways to change function settings.

Using the Direct Keys

In capture mode, you can set Drive Mode, Sensitivity, Flash Mode and Focus Mode by pressing the four-way controller (▲▼◀▶). (p.63)
Below, how to set Focus Mode is explained as an example.

1 **Press the four-way controller (▶) in capture mode.**

The Focus Mode setting screen appears.

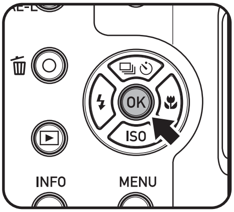


2 **Use the four-way controller (◀▶) to select a focus mode.**



3 **Press the OK button.**

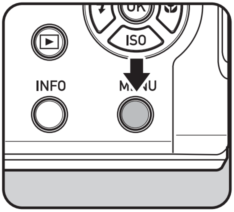
The camera is ready to take a picture.



Using the Menus

This section explains how to use the following menus: [📷 Rec. Mode], [🎥 Movie], [🔧 Setting] and [C Custom].
Below, how to set [Shake Reduction] in the [📷 Rec. Mode 2] menu is explained as an example.

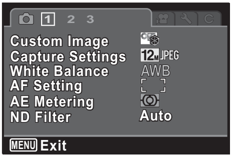
1 Press the MENU button in capture mode.



The [📷 Rec. Mode 1] menu appears on the display.
The menus listed below are displayed in the following situations.

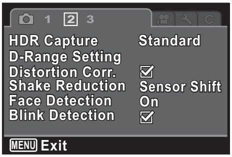
When the mode dial is set to 🎥	[🎥 Movie 1] menu
When the mode dial is set to ● (Green Mode)	[🔧 Setting 1] menu
In playback mode	[🔧 Setting 1] menu

2 Press the four-way controller (▶).



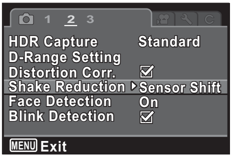
Each time the four-way controller (▶) is pressed, the menu will change in the following sequence: [📷 Rec. Mode 2], [📷 Rec. Mode 3], [🎥 Movie 1] ... [📷 Rec. Mode 1].
You can also change the menu by turning the e-dial.
When you turn the zoom lever, the tab changes in the sequence of [📷 Rec. Mode], [🎥 Movie], [🔧 Setting], and [C Custom].

3 Use the four-way controller (▲▼) to select an item.



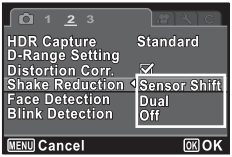
4 Press the four-way controller (▶).

Available settings are displayed in the pull-down menu or submenu.



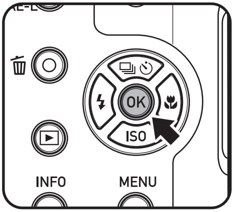
5 Use the four-way controller (▲▼) to select a setting.

Press the **MENU** button to cancel the pull-down menu, or return to the previous screen.



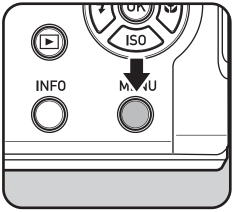
6 Press the OK button.

The setting is saved.
Press the **MENU** button if a submenu is displayed.
Next, set other items.



7 Press the MENU button.

The screen that was displayed before selecting the menu appears again.



Caution: Even after you press the **MENU** button and close the menu screen, your settings will not be saved if the camera is turned off improperly (such as by removing the battery while the camera is on).

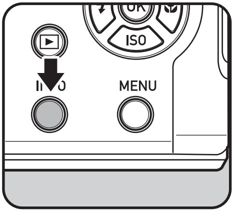
- You can select whether to display the menu tab selected the last time first, or to always display the [📷 Rec. Mode 1] menu first. (p.188)
- Refer to the following pages for details on each menu.
  - [📷 Rec. Mode] menus ☞ p.63
  - [🎥 Movie] menu ☞p.66
  - [🔧 Setting] menus ☞p.169
  - [C Custom] menus ☞p.67

Using the Control Panel

While shooting, the current settings can be checked on the display, and you can switch to the control panel and change settings.
Below, how to set [Focusing Area] is explained as an example.

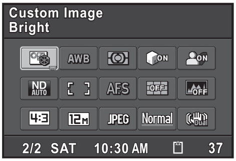
1 **Press the INFO button in capture mode.**

The control panel appears.



2 **Use the four-way controller (▲▼◀▶) to select an item you want to change the setting for.**

You cannot select items that cannot be changed as a result of current camera settings.

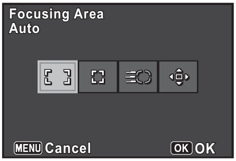


3 **Press the OK button.**

The setup screen of the selected item appears.



4 Use the four-way controller (◀ ▶) or e-dial to select a setting value.



5 Press the OK button.

The camera returns to the control panel.

6 Press the INFO button.

The camera is ready to take a picture.

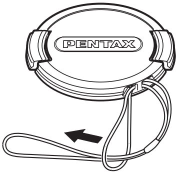
memo

You can also change the setting by turning the e-dial after selecting the item you want to change in Step 2. Detailed settings such as parameters can be changed after pressing the OK button.

Attaching the Lens Cap and Strap

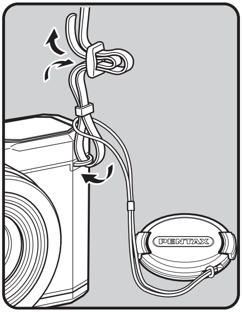
Attach the lens cap and strap supplied with the camera.

1 **Attach the string provided to the lens cap.**

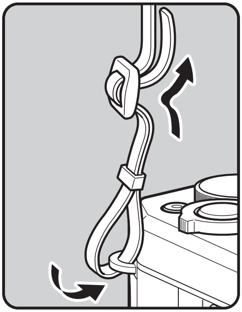


2 **Pass the end of the strap through the strap lug, then secure it on the inside of the clasp.**

As shown in the illustration, passing the strap through the lens cap's string prevents the lens cap from being lost.



3 **Attach the other end of the strap in the same manner as described above.**

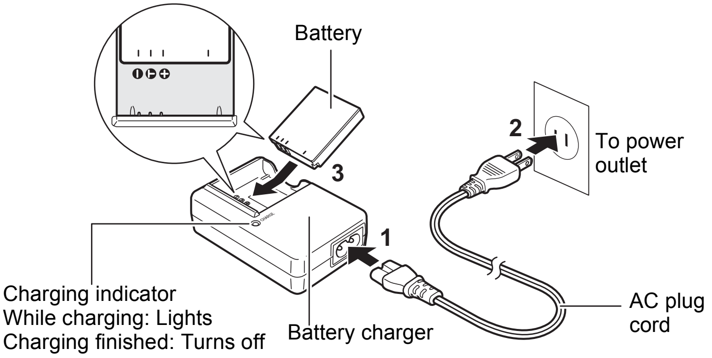


Powering the Camera

Charging the Battery

Use the supplied battery charger (D-BC106) to charge the supplied rechargeable lithium-ion battery (D-LI106) before using it in the camera for the first time or after a long period of non-use, or when the [Battery depleted] message appears.

Note: AC plug cord "Listed, Type SPT-2 or NISPT-2, 18/2 flexible cord, rated 125 V, 7A, minimum 6 ft (1.8 m)"



1 **Connect the AC plug cord to the battery charger.**

2 **Plug the AC plug cord into the power outlet.**

3 **Place the battery in the battery charger so that the PENTAX logo is facing up.**

The charging indicator lights while the battery is charging and turns off when charging is finished.

4 **Remove the battery from the battery charger when charging is finished.**

Caution

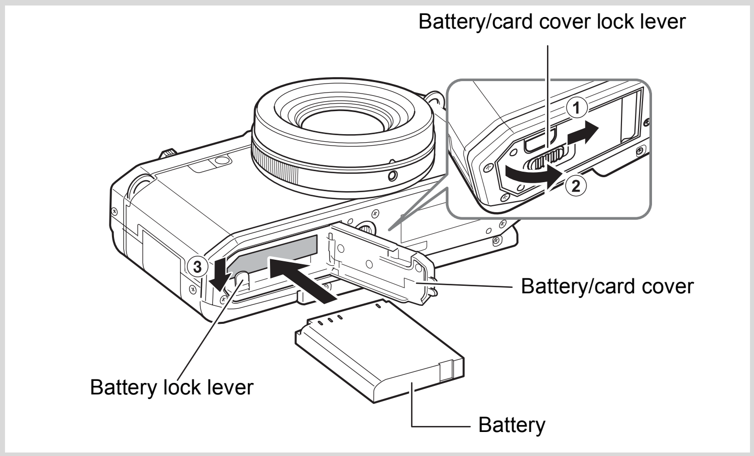
- Do not use the supplied battery charger (D-BC106) to charge batteries other than the rechargeable lithium-ion battery D-LI106, as the battery charger may overheat or be damaged.
- The battery has reached the end of its service life when it starts to run down soon after being charged. Replace it with a new battery.
- If the battery is inserted correctly but the charging indicator fails to light, the battery may be faulty. Replace it with a new battery.

memo

The time required to fully charge the battery is about 140 minutes (max.). (The charging time may vary depending on the ambient temperature and charging conditions.) The appropriate ambient temperature for charging the battery is 0°C to 40°C (32°F to 104°F).

Installing the Battery

Use the rechargeable lithium-ion battery D-LI106 that is provided with the camera. Charge the battery before using it in the camera for the first time.



1 Open the battery/card cover.

Slide the battery/card cover lock lever in the direction indicated by the arrow ①, and the cover opens in the direction of the arrow ②.

2 **While pressing the battery lock lever in the direction of the arrow ③, insert the battery so that the PENTAX logo is facing toward the display.**

Match the marks on the battery to the marks inside the battery compartment and push the battery in until it is locked in place. (The battery cannot be inserted if it is incorrectly oriented.)

3 **Close the battery/card cover.**

After closing the battery/card cover, slide the cover lock lever in the opposite direction indicated by ①. When you hear a click, the cover is securely closed.

To Remove the Battery

1 **Open the battery/card cover.**

2 **Press the battery lock lever in the direction of ③.**

The battery will be ejected. Take care not to drop the battery when removing it.

Caution

- This camera uses a rechargeable lithium-ion battery D-LI106. Use of any other type of battery may damage the camera and cause a malfunction.
- Do not remove the battery while the camera is turned on.
- When storing the battery for more than 6 months, charge the battery for 30 minutes using the battery charger and store the battery separately.
  Be sure to recharge the battery every 6 to 12 months. Storing the battery at or below room temperature is ideal. Avoid storing it at high temperature.
- The date and time may be returned to the default setting if the camera is left without the battery for a long time.
- Be careful as the camera or the battery may become hot when the camera is used continuously for a long period of time.

- **Image Storage Capacity, Movie Recording Time, and Playback Time**
  (at 23°C with the display on and the battery fully charged)

Image Storage Capacity*1 (flash used for 50% of shots)	Movie Recording Time*2	Playback Time*2
Approx. 290 pictures	Approx. 90 min.	Approx. 280 min.

*1 Image Storage Capacity shows the approximate number of shots recorded during CIPA-compliant testing (with display on, flash used for 50% of the shots, and 23 degrees centigrade). Actual performance may vary according to operating conditions.
*2 According to the result of in-house testing. Actual performance may vary according to operating conditions.

memo

- In general, battery performance may temporarily deteriorate as the temperature decreases.
- Be sure to take a spare battery with you when traveling abroad or to a cold region, or if you intend to take a lot of pictures.

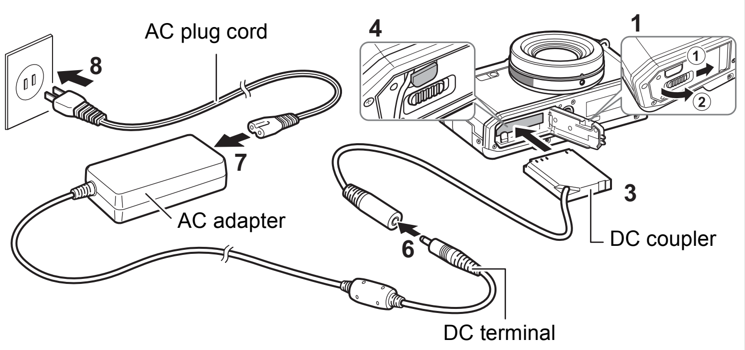
- **Battery Level Indicator**

You can check the battery level by the indicator on the display.

Screen Display	Battery Status
 (green)	Adequate power remains.
 (green)	Battery is running low.
 (yellow)	Battery is running very low.
 (red)	Battery is exhausted.
[Battery depleted]	The camera will turn off after this message appears.

Using the AC Adapter

Use of the optional AC adapter kit (K-AC130) is recommended if you intend to use the camera for a long time or connect it to a computer.



1 **Make sure that the camera is turned off and open the battery/card cover.**

2 **Remove the battery.**

Refer to p.39 - p.40 on how to open/close the battery/card cover and remove the battery.

3 **Insert the DC coupler while holding down the battery lock lever.**

Confirm the DC coupler is locked in place.

4 **Extract the DC coupler cord.**

Pull up the DC coupler outlet cover at the joint of the camera and the battery/card cover so that the DC coupler cord can be extracted from there.

5 **Close the battery/card cover.**

6 Connect the DC terminal of the AC adapter to the DC terminal of the DC coupler.

7 Connect the AC plug cord to the AC adapter.

8 Plug the AC plug cord into the power outlet.

Caution

- Make sure that the camera is turned off before connecting or disconnecting the AC adapter.
- Make sure that the AC plug cord and the DC terminal connecting the AC adapter to the camera are inserted securely. Data may be lost if either becomes disconnected while data is being recorded on the SD Memory Card or the built-in memory.
- Use the AC adapter with due care to avoid fire or electric shock. Be sure to read “About the Battery Charger and AC Adapter” (p.2) before using the AC adapter.
- Be sure to read the operation manual accompanying the AC adapter kit K-AC130 before using the adapter.

Installing an SD Memory Card

This camera uses a commercially available SD Memory Card, SDHC Memory Card, or SDXC Memory Card. Captured images are saved on the SD Memory Card when a card is inserted in the camera. They are saved in the built-in memory when no card is inserted (p.47).

Caution

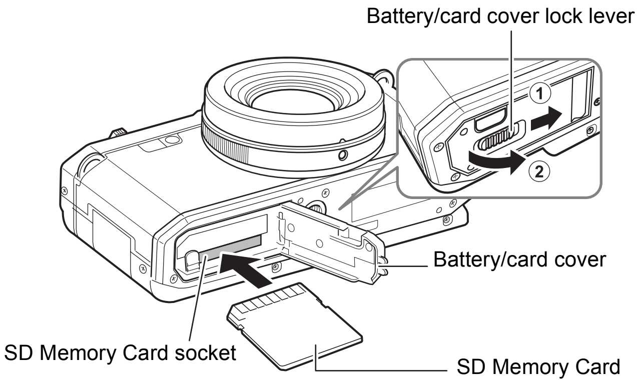
- **Be sure to use this camera to format (initialize) an SD Memory Card that is unused or has been used on other cameras or digital devices. Refer to "Formatting the Memory" (p.171) for instructions on formatting.**
- When using a new Eye-Fi card for the first time, copy the installation file of Eye-Fi Manager on the card to your computer before formatting the card.
- Make sure that the camera is turned off before inserting or removing the SD Memory Card.

memo

- The number of still pictures that can be stored and the movie recordable time vary depending on the capacity of the SD Memory Card, the selected number of recorded pixels, and the quality level, as well as the frame rate (for movies).
  - Choose the appropriate number of recorded pixels for still pictures in the [📷 Rec. Mode 1] menu. Refer to "Setting the Recording File Format" (p.97) for details.
  - Choose the appropriate number of recorded pixels and frame rate for movies in the [🎥 Movie 1] menu. Refer to "To Select the Number of Recorded Pixels for Movies" (p.118) for details.
  - For an approximate guide to the number of still pictures or the length of recorded movies that can be saved on an SD Memory Card or in the built-in memory, see "Main Specifications" (p.224).
- The power lamp blinks while the SD Memory Card is being accessed (data is being recorded or read).

Backing Up Data

The camera may not be able to access data on the SD Memory Card or built-in memory in the case of a malfunction. Use a computer or other device to back up important data in another location.



1 **Make sure that the camera is turned off and open the battery/card cover.**

① Slide the battery/card cover lock lever in the direction of the arrow and ② open the battery/card cover.

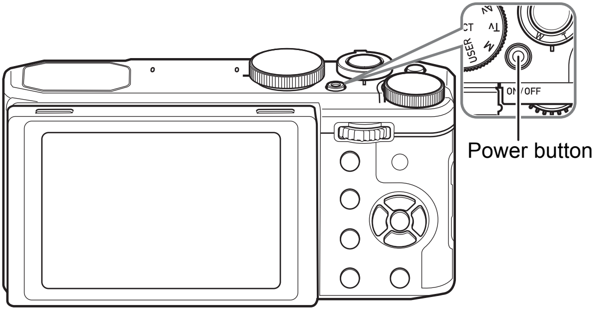
2 **Insert the SD Memory Card into the SD Memory Card socket so that the label is facing the display side of the camera.**

Push the card in until it clicks. Data may not be recorded correctly if the card is not inserted all the way.
To remove the SD Memory Card, push it in once and then pull it out.

3 **Close the battery/card cover.**

Close the battery/card cover, and slide the battery/card cover lock lever in the opposite direction of ① to lock.

Turning the Camera On and Off



1 **Remove the lens cap.**

2 **Press the power button.**

The camera turns on and the display turns on.
When you turn the camera on, the lens extends. (The lens will not extend if the initial settings have not been configured.)
If the [Language/言語] screen or [Date Adjustment] screen appears when you turn the camera on, follow the procedure on p.48 to set the display language and/or current date and time.

3 **Press the power button again.**

The display turns off, the lens closes, and the camera turns off.

Taking Still Pictures ☞p.53

Checking the SD Memory Card

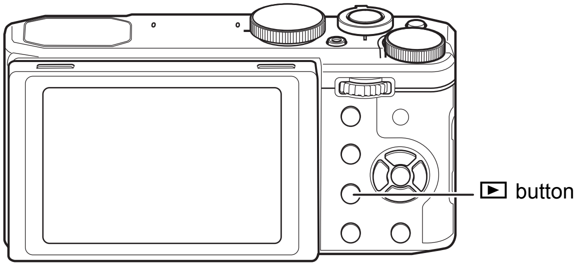
The SD Memory Card is checked when the camera turns on and the memory status is displayed.



	The SD Memory Card is inserted. Images will be saved on the SD Memory Card.
	The SD Memory Card is not inserted. Images will be saved in the built-in memory.
	The write-protect switch on the SD Memory Card is in the LOCK position (p.7). Images cannot be recorded.

Starting-up in Playback Mode

If you want to play back images straightaway without taking any pictures, you can start up the camera in playback mode.



1 **Hold the ▶ button depressed.**

The display turns on with the lens retracted, and the camera turns on in playback mode.

memo

- To switch from playback mode to capture mode, be sure to remove the lens cap, and press the ▶ button or press the shutter release button halfway.
- In order to set the starting-up in playback mode to off, set [Playback Mode] to □ (Off) in [Startup Shortcut] in the [🔧 Setting 4] menu (p.191).

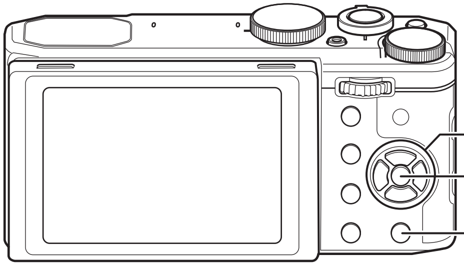
Playing Back Still Pictures ☞p.123

Initial Settings

The [Language/言語] screen appears when the camera is turned on for the first time (p.46). Perform the operations in “Setting the Display Language” below to set the language, and in “Setting the Date and Time” (p.51) to set the current date and time.

The language, date, and time can be changed later. Refer to the pages below for instructions.
- To change the language, follow the steps in “Changing the Display Language” (☞p.177).
- To change the date and time, follow the steps in “Changing the Date and Time” (☞p.173).

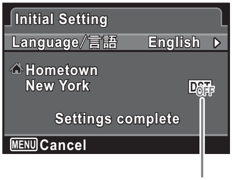
Setting the Display Language



1 **Use the four-way controller (▲▼◀▶) to choose the desired display language.**

2 **Press the OK button.**

The [Initial Setting] screen appears in the selected language. If the desired settings for [Hometown] and [DST] (Daylight Saving Time) appear, proceed to Step 9.
Proceed to Step 3 if the desired settings do not appear.



If you accidentally select the wrong language and proceed to the next procedure, perform the following operation to set the desired language.

● **If the wrong language has been inadvertently selected**

1 Press the four-way controller (▶).

2 Use the four-way controller (▲▼◀▶) to select the desired language and press the OK button.

The [Initial Setting] screen appears in the selected language.

● **If the screen after step 2 appears in the wrong language**

1 Press the MENU button.

The setting screen is canceled and the camera is set to still-picture capture mode.

2 Press the MENU button.

The [📷 Rec. Mode 1] menu appears.

3 Press the four-way controller (▶) four times.

The [🔧 Setting 1] menu appears.

4 Use the four-way controller (▲▼) to select [Language/言語].

5 Press the four-way controller (▶).

The [Language/言語] screen appears.

6 Use the four-way controller (▲▼◀▶) to select the desired language.

7 Press the OK button.

The [🔧 Setting 1] menu appears in the selected language.

To reset the Hometown city, date, and time, refer to the pages below for instructions.

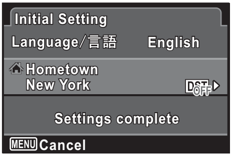
- To change the Hometown city, follow the steps in "Setting the World Time" (☞p.174).
- To change the date and time, follow the steps in "Changing the Date and Time" (☞p.173).

3 Press the four-way controller (▼).

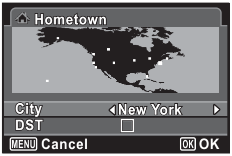
The frame moves to [⌂ Hometown].

4 Press the four-way controller (▶).

The [⌂ Hometown] screen appears.



5 Use the four-way controller (◀ ▶) to choose a city.



6 Press the four-way controller (▼).

The frame moves to [DST] (Daylight Saving Time).

7 Use the four-way controller (◀ ▶) to select ☑ (On) or □ (Off).

8 Press the OK button.

The [Initial Setting] screen reappears.

9 Press the four-way controller (▼) to select [Settings complete].

10 Press the OK button.

The [Date Adjustment] screen appears. Next, set the date and time.

> The video output format (NTSC/PAL) is set to the format of the city selected in [Hometown] on the [Initial Setting] screen. Refer to "List of World Time Cities" (p.223) for the video output format of each city that will be set at the time of initial setting, and "Changing the Video Output Format" (p.183) for changing the video output format.

Setting the Date and Time

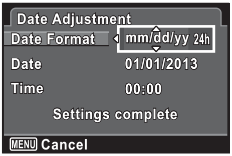
Set the current date and time and the display style.

1 Press the four-way controller (▶).

The frame moves to [mm/dd/yy].

2 Use the four-way controller (▲▼) to choose the date format.

Choose [mm/dd/yy], [dd/mm/yy] or [yy/mm/dd].



3 Press the four-way controller (▶).

The frame moves to [24h].

4 Use the four-way controller (▲▼) to select [24h] (24-hour display) or [12h] (12-hour display).

5 Press the four-way controller (▶).

The frame returns to [Date Format].

6 Press the four-way controller (▼).

The frame moves to [Date].

7 Press the four-way controller (▶).

The frame moves to the month.

8 Use the four-way controller (▲▼) to change the month.

Change the day and year in the same manner.
Next, change the time.
If you selected [12h] in Step 4, the camera automatically switches the display between am and pm corresponding to the time.

9 Press the four-way controller (▶), and then use the four-way controller (▼) to select [Settings complete].

10 Press the OK button.

This confirms the date and time.

If you press the **OK** button in Step 10, the camera clock is reset to 0 seconds. To set the exact time, press the **OK** button when the time signal (on the TV, radio, etc.) reaches 0 seconds.

When the [Initial Setting] or [Date Adjustment] screen is displayed, you can cancel the settings made up to that point and switch to capture mode by pressing the **MENU** button. In this case, the [Initial Setting] screen will appear again the next time you turn the camera on.

The language, date, time, Hometown city, and DST setting can be changed. Refer to the pages below for instructions.

- To change the language, follow the steps in “Changing the Display Language” (☞p.177).
- To change the date and time, follow the steps in “Changing the Date and Time” (☞p.173).
- To change the Hometown city or DST setting, follow the steps in “Setting the World Time” (☞p.174).

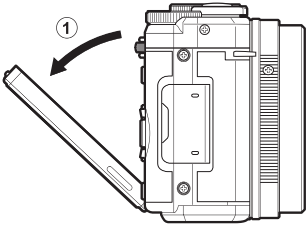
Adjusting the Position of the Display

The display can be lowered down to approx. 45° or raised upward to approx. 90°. This is convenient for shooting at a low angle, or shooting with the camera above your head.

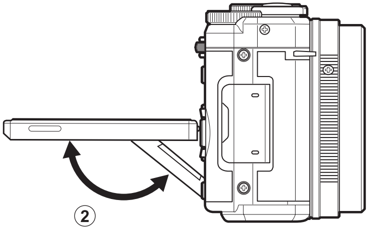
Caution

- Be careful not to apply excessive force to the display when adjusting its position.
- The display cannot be moved horizontally.
- Put the display back in the original position when using in ordinary situations.

① Pull out the top of the display in the direction of the arrow.



② Move the display in the direction of the arrow according to your desired shooting angle.



Taking Pictures (Auto Picture Mode)

This camera features various capture modes, focus modes, and drive modes for expressing your photographic vision. This section explains how to take pictures using AUTO PICT (Auto Picture) mode, by simply pressing the shutter release button.
In AUTO PICT mode, the camera automatically selects the most appropriate capture mode depending on the situations and subjects.

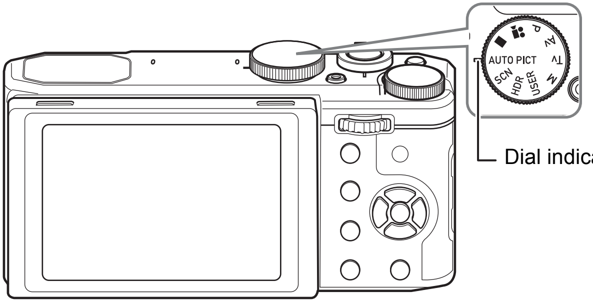
1 **Remove the lens cap.**

2 **Press the power button.**

The camera turns on and enters Capture Mode.

3 **Set the mode dial to AUTO PICT .**

The camera will select the optimal capture mode for the subject.



4 **Confirm the subject and shooting information on the display.**

The focus frame in the middle of the display indicates the zone of automatic focusing.



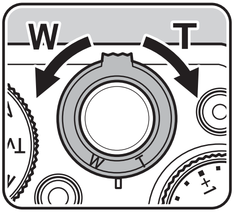
When the camera detects a person's face, the Face Detection function is activated and the face detection frame appears (p.58).



Face detection frame

You can change the captured area by turning the zoom lever to the right or left (p.60).

Right (**T**)	Enlarges the subject.
Left (**W**)	Widens the area that is captured by the camera.



5 Press the shutter release button halfway.

The selected shooting mode is displayed on the top left of the screen.



Standard	Night Scene	Night Scene Portrait
Landscape	Flower	Portrait
Sport	Candlelight	Blue Sky
Portrait×Blue Sky	Portrait×Backlight	Sunset
Portrait×Sunset	Group Photograph	Text

The focus frame (or face detection frame) on the display turns green when the camera focuses on the subject at the correct distance.
To use the flash, slide the ϟ lever to pop up the flash (p.86).

6 Press the shutter release button fully.

The picture is taken.
The flash discharges automatically depending on the light conditions.
The captured image appears on the display (Instant Review☞p.57) and is saved to the SD Memory Card or the built-in memory.

The following restrictions apply in AUTO PICT mode:
- You cannot set the Face Detection function to [Off].
- The focusing area setting is fixed at [ ] (Auto).
- The ❀ (Flower) mode cannot be selected when using Digital Zoom or Intelligent Zoom.
- If (Night Scene) mode is selected when the flash mode is ⚡A (Auto) or ⚡◉ (Auto + Red-eye), the flash mode is fixed to ⊘ (Flash Off).
- When the drive mode is set to (Continuous Shooting), (Burst Shooting(L)), or (Burst Shooting(H)), pictures are taken consecutively in shooting mode selected for the first shot.
- The EV Compensation is fixed to ±0EV.
- When a registered pet is detected, the camera is switched to (Pet) mode.

To Use the Shutter Release Button

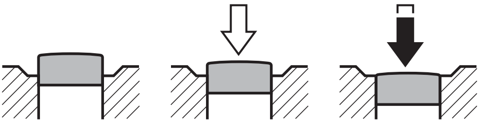
The shutter release button works in a two-step action as follows.

Press halfway

This refers to pressing the shutter release button gently to the first position. This locks the focus setting and the exposure. The green focus frame lights on the display when the shutter release button is pressed halfway and the subject is in focus. If the subject is out of focus, the frame turns white.

Press fully

This refers to pressing the shutter release button all the way down to the fully depressed position. This takes a picture.



Not pressed | Pressed halfway (first position) | Pressed fully (second position)

Subjects that are difficult to focus on

The camera may not be able to focus under the following conditions. In these cases, lock the focus on an object the same distance away as the subject (by pressing and holding the shutter release button halfway), then aim the camera at your subject and press the shutter release button fully.

- Objects that lack contrast such as a blue sky or white wall
- Dark places or objects, or conditions that prevent light being reflected back
- Intricate patterns
- Fast moving objects
- When there is an object in the foreground and an object in the background in the captured area
- Strongly reflected light or strong backlighting (bright background)

Instant Review and Blink Detection

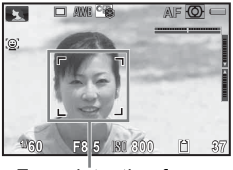
The image appears on the display immediately after capturing (Instant Review). If the camera detects that the subject's eyes are closed while the Face Detection function is activated, the message [Closed eyes have been detected] appears for 3 seconds (Blink Detection).

memo

- When the Face Detection function does not work, Blink Detection also does not function. Even if the subjects' faces are detected, Blink Detection may not function depending on the condition of the detected faces.
- You can set the Instant Review function to off (p.109).
- You can also disable the Blink Detection function (p.108).

To Use the Face Detection Function

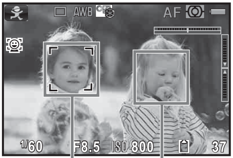
With this camera, the Face Detection function is available with all shooting modes.
When the camera detects a person's face in the image, the Face Detection function displays a yellow face detection frame around the face on the screen display, sets the focus (Face Detection AF) and compensates the exposure (Face Detection AE).
If the subject in the face detection frame moves, the frame also moves and changes its own size as it tracks the face.



Face detection frame

The Face Detection function can detect up to 32 people's faces. If it detects multiple faces, the camera displays a yellow frame over the main face and white frame(s) over the other face(s). It can display up to a total of 31 frames including a main frame and white frame(s).

When the multiple faces are detected



Main frame   White frame

The default setting is [On]. You can switch to the Smile Capture function that automatically releases the shutter when the subject smiles.
Refer to "Setting the Face Detection Function" (p.107) for details.

Taking Pictures in Basic Mode (Green Mode)

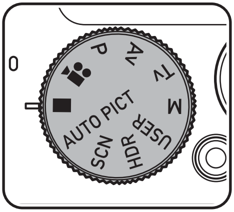
In ● (Green) mode, you can enjoy easy picture-taking using standard settings, regardless of the settings in the [Rec. Mode] menu.
The ● (Green) mode settings are as shown below.

Sensitivity		AUTO
AUTO ISO Range		ISO100 - 1600
EV Compensation		±0.0
Flash Exp. Comp.		±0.0
Custom Image		Bright
	Saturation	±0
	Hue	±0
	Contrast	±0
	Sharpness	±0
Capture Settings	Aspect Ratio	4:3
	File Format	JPEG
	JPEG Recorded Pixels	12M
	JPEG Quality	Fine
White Balance		**AWB** (Auto White Balance)
	AWB fine-tuning AB	±0
	AWB fine-tuning GM	±0
AF Setting	Focusing Area	[ ] (Auto)
	AF Mode	**AF.S**
	Focus Assist	☑ (On)
AE Metering		[Multi-segment icon] (Multi-segment)
ND Filter		Auto
HDR Capture		Standard
D-Range Setting	Highlight Correction	Auto
	Shadow Correction	□ (Off)
Distortion Corr.		☑ (On)
Shake Reduction		Sensor Shift
Face Detection		On
Blink Detection		☑ (On)
Digital Zoom		☑ (On)
Instant Review	Display Time	1 sec.
	Zoom Instant Review	☑ (On)
	Histogram	□ (Off)
	Highlight Alert	□ (Off)
Memory	Zoom Position	□ (Off)
	Items other than Zoom Position	☑ (On)

LCD View Options	Grid Display	OFF (Off)
	Histogram	□ (Off)
	Highlight Alert	□ (Off)
	Electronic Level	□ (Off)
Date Imprint		Off

1 **Set the mode dial to ● (Green).**

The camera switches to ● mode.
When the camera detects a person's face, the Face Detection function is activated and the face detection frame appears (p.58).
To use the flash, slide the ⚡ lever to pop up the flash (p.86).



2 **Press the shutter release button halfway.**

The focus frame on the display turns green when the camera focuses on the subject at the correct distance.

3 **Press the shutter release button fully.**

The picture is taken.

memo

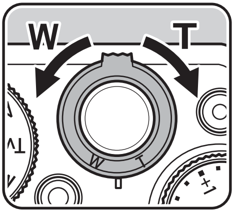
- In ● mode, you cannot change the information on the display by pressing the **OK** button.
- If you press the **MENU** button in ● mode, the [🔧 Setting 1] menu appears. Any menu other than [🔧 Setting 1/2/3/4] cannot be displayed.

Using the Zoom

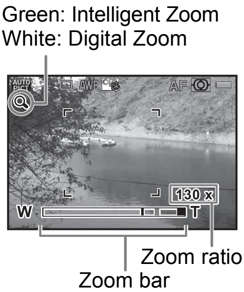
You can use the zoom to change the area to be captured.

1 Turn the zoom lever in capture mode.

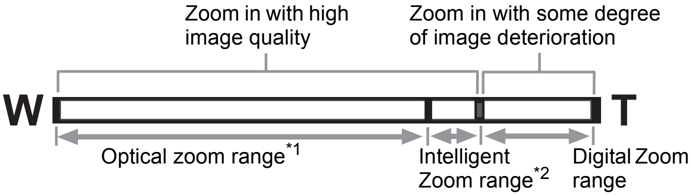
Right (**T**)	Enlarges the subject.
Left (**W**)	Widens the area that is captured by the camera.



If you continue turning the lever to the right (**T**), the camera automatically switches from optical zoom to Intelligent Zoom and stops at the point it switches to Digital Zoom.
Once the lever is released and turned again, the camera switches to Digital Zoom.



The zoom bar is displayed as follows:



*1 You can zoom in to a maximum of 4.0× optically (6.0 mm - 24.0 mm (Approx. 28 mm - 112 mm in 35 mm equivalent focal length)).
*2 The Intelligent Zoom range differs depending on the number of recorded pixels. See the following table.

Recorded pixels and the maximum zoom ratio

Recorded Pixels	Intelligent Zoom	Digital Zoom
12M / 9M 16:9 / 10M 3:2 / 9M 1:1	Not available (4.0x optical zoom only)	Approx. 7.8x
7M / 5M 16:9 / 6M 3:2 / 5M 1:1	Approx. 5.2x	Approx. 7.8x

Recorded Pixels	Intelligent Zoom	Digital Zoom
5M/3M 16:9/4M 3:2/3M 1:1	Approx. 6.2x	Approx. 7.8x
3M/2M 16:9/2M 3:2/2M 1:1	Approx. 7.8x	Not available

memo

- It is recommended to use a tripod or other support to prevent camera shake when taking pictures at high zoom.
- When the focus mode is set to 1cm (1cm Macro), the zoom position is fixed.
- Pictures taken in the Digital Zoom range appear grainier than pictures taken in the optical zoom range.
- Intelligent Zoom is not available when the number of recorded pixels is set to 12M/9M 16:9/10M 3:2/9M 1:1 (4.0× optical zoom and Digital Zoom are available).
- The image enlarged using Intelligent Zoom may appear rough on the display. This does not affect the quality of the recorded image.

To Set the Digital Zoom

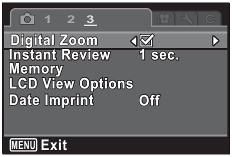
The Digital Zoom is set to ☑ (On) in the default setting. To take pictures using only the optical zoom and Intelligent Zoom range, set the Digital Zoom to □ (Off).

1 Press the MENU button in still-picture capture mode.

The [📷 Rec. Mode 1] menu appears.

2 Use the four-way controller (◄ ►) to select the [📷 Rec. Mode 3] menu, then press the four-way controller (▲ ▼) to select [Digital Zoom].

3 Use the four-way controller (◄ ►) to select ☑ or □.



☑ Uses Digital Zoom.

□ Uses only optical zoom and Intelligent Zoom.

The setting is saved.

4 Press the MENU button.

The camera returns to capture status.

Saving the Digital Zoom function setting ☞p.121

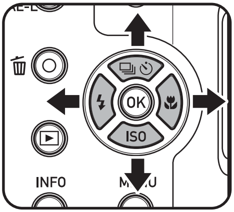
How to Operate the Shooting Functions

You can change capture-related settings using the direct keys, control panel, [📷 Rec. Mode] menu, [🎥 Movie] menu or [C Custom] menu.

memo For details on how to use the menus, refer to "Using the Menus" (p.33).

Direct Keys Setting Items

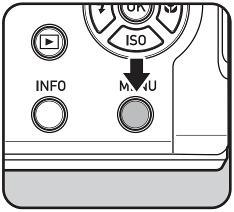
Press the four-way controller (▲▼◀▶) in capture mode to set the following items.



Key	Item	Function	Page
▲	Drive Mode	Selects Continuous Shooting, Burst Shooting, Self-timer, Remote Control or Auto Bracketing.	p.87
▼	Sensitivity	Sets the ISO sensitivity.	p.94
◀	Flash Mode	Sets the method of flash discharge.	p.84
▶	Focus Mode	Selects the method of focusing.	p.89

Rec. Mode Menu Items

The following settings can be performed in the [📷 Rec. Mode 1-3] menus.
Press the **MENU** button in capture mode to display the [📷 Rec. Mode 1] menu.

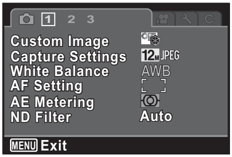


Menu	Item		Function	Page
📷1	Custom Image *1/ Scene Mode *2		Sets the finishing image tone such as color and contrast before shooting an image.	p.110
	Capture Settings	Aspect Ratio *1	Sets the horizontal and vertical ratio of images.	p.97
		File Format *1	Sets the file format.	
		JPEG Recorded Pixels *1	Sets the recording size of images saved in JPEG format.	
		JPEG Quality *1	Sets the quality of images saved in JPEG format.	
	White Balance *1		Selects the white balance.	p.100
	AF Setting	Focusing Area *1	Sets the target area of auto focusing.	p.91
		AF Mode *1	Selects the method of auto focusing.	p.92
		Focus Assist	Activates the Focus Assist light when the subject is too dark to activate the autofocus system.	p.92
	AE Metering *1		Selects the part of the sensor to use for measuring brightness and determining exposure.	p.97
	ND Filter *1		Sets whether to use the ND filter built-in to the lens.	p.105
📷2	**HDR** Capture		Enables capturing images with high dynamic range.	p.104
	D-Range Setting	Highlight Correction *1	Adjusts extremely bright portions to eliminate highlight clipping.	p.104
		Shadow Correction *1	Adjusts extremely dark portions to eliminate shadow clipping.	
	Distortion Corr.		Reduces distortions occurring due to lens properties.	p.106
	Shake Reduction *1		Activates the Shake Reduction function.	p.106
	Face Detection		Adjusts the focus and exposure by detecting human faces.	p.107

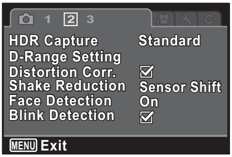
Menu	Item	Function	Page
📷2	Blink Detection	Determines whether to activate Blink Detection in combination with Face Detection.	p.108
📷3	Digital Zoom	Determines whether to use the Digital Zoom function.	p.62
	Instant Review	Sets the Instant Review display settings.	p.109
	Memory	Determines which settings to save when the power is turned off.	p.121
	LCD View Options	Sets the display in capture mode.	p.188
	Date Imprint	Determines whether to imprint the date/time when taking still pictures.	p.112

*1 Can also be set using the control panel.
*2 When **SCN** is selected with the mode dial, [Scene Mode] is displayed.

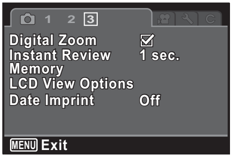
[📷 Rec. Mode 1] menu



[📷 Rec. Mode 2] menu



[📷 Rec. Mode 3] menu



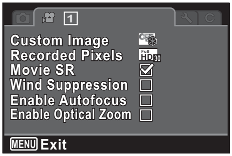
Movie Menu Items

The following settings can be performed in the [Movie 1] menu. Press the **MENU** button when the mode dial is set to movie to display the [Movie 1] menu.

Menu	Item	Function	Page
1	Custom Image *1	Sets the image finishing tone, such as saturation, hue and contrast.	p.118
	Recorded Pixels *1	Sets the number of recorded pixels or size of the movie.	p.118
	Movie SR	Activates the Movie SR function.	p.119
	Wind Suppression *1	Reduces the wind noise in recording.	p.119
	Enable Autofocus *1	Determines whether to activate the autofocus system in movie recording.	p.120
	Enable Optical Zoom	Determines whether to activate the optical zoom in movie recording.	p.120

*1 Can also be set using the control panel.

[Movie 1] menu

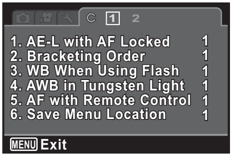


Custom Function Menu Items

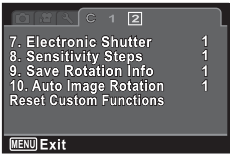
Set the [**C** Custom 1-2] menus to fully use the functions of this camera.

Menu	Item	Function	Page
C1	1. AE-L with AF Locked	Sets whether to lock the exposure value when the focus is locked.	p.96
	2. Bracketing Order	Sets the order for Auto Bracketing shooting.	p.88
	3. WB When Using Flash	Sets the white balance setting when using flash.	p.102
	4. AWB in Tungsten Light	Sets whether to adjust the tungsten light color tone when the white balance is set to **AWB** (Auto White Balance).	p.102
	5. AF with Remote Control	Sets whether to use autofocus when shooting with remote control.	p.89
	6. Save Menu Location	Sets whether to save the last menu tab shown on the display and to display it again the next time the **MENU** button is pressed.	p.188
C2	7. Electronic Shutter	Sets whether to enable the electronic shutter to be used in combination.	—
	8. Sensitivity Steps	Switches the ISO Sensitivity step.	p.94
	9. Save Rotation Info	Determines whether to record rotation information in capture mode.	p.131
	10. Auto Image Rotation	Determines whether to activate the automatic image rotation in playback.	p.131
	Reset Custom Functions	Resets all the settings in the [**C** Custom 1-2] menus to the defaults.	—

[C Custom 1] menu



[C Custom 2] menu



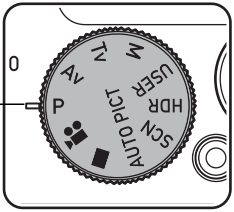
Selecting the Capture Mode with the Mode Dial

This camera features various capture modes. Using the mode dial, select the appropriate capture mode suited for your photographic vision. In this manual, the capture modes are referred to as follows.

Capture Mode	Type	Page
AUTO PICT (Auto Picture) mode	The camera will automatically select the optimal capture mode for the subject.	p.54
SCN (Scene) mode	You can choose the capture mode from various scene styles.	p.69
HDR mode	For generating a single image of wide dynamic range from 3 images captured with different exposure settings.	p.75
USER mode	For capturing with the settings specified by a user as desired.	p.76
Exposure modes (**P**/**Tv**/**Av**/**M**)	Changes the shutter speed and aperture value, and takes pictures.	p.71
(Movie) mode	Records a movie.	p.113
(Green) mode	For quick capturing using the standard settings registered in advance.	p.58

1 **Turn the mode dial to set the desired capture mode on the mode dial to the dial indicator.**

Dial indicator



The selected capture mode is indicated on the display (Guide Display).



Shooting in Specific Scenes (Scene Mode)

By setting the mode dial to **SCN** (Scene), you can choose from the following shooting scenes.

Shooting Scene	Description
Portrait	For capturing portraits. Reproduces a healthy and bright skin tone.
Flower	For images of flowers. The outline of the flower is softened.
Landscape	For capturing landscape views. Enhances colors of sky and foliage.
Blue Sky	Emphasizes saturation of the sky to produce a bright image.
Sunset	For images of sunsets and warm lighting.
Night Scene	For night time images. Use of a tripod or other support is suggested.
Handheld Night Snap	Minimizes camera shake for shooting at night or other low light settings.
Night Scene Portrait	For images of people at night. Use of a tripod or other support is advised. When the flash mode is set to ⚡A (Auto) and the camera detects a person's face, the flash mode automatically changes to ⚡◉ (Flash On + Red-eye).
Candlelight	For capturing scenes in candlelight.
Fireworks	For capturing fireworks. Use of a tripod or other support is suggested. The shutter speed is fixed at 4 seconds and the sensitivity is fixed at the minimum value.
Food	For images of food and prepared dishes. Enhances saturation and contrast.
Surf & Snow	For bright images such as sand or snow. Accurately meters for bright scenes.
Pet	Suitable shooting for moving pets. Available to detect registered pets. (☞p.82)
Kids	For capturing moving kids. Reproduces a healthy and bright skin tone.
Sport	For a fast moving subject. Tracks the subject until the picture is taken.
Digital SR	Higher sensitivity reduces blur. The sensitivity is fixed to [AUTO].
Text	Captures text in an easy to read manner. Text contrast can be adjusted.

Shooting Scene	Description
Candid Capture	Disables sound effects, flash and AF assist light for discreet image capture.
Digital Wide	Stitches two pictures together to create a wider image. (☞p.78)
Digital Panorama	Stitches images taken with the camera to create a panoramic photograph. (☞p.80)
Miniature	For capturing an image with the subject looks like miniature objects.

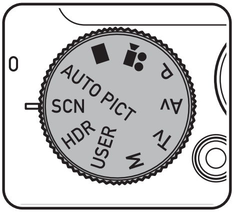
memo

Some functions may not be available or may not work fully depending on the selected shooting mode. For details, refer to “Functions Available for Each Shooting Mode” (p.204).

To Select the Shooting Scene

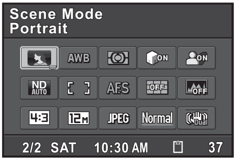
1 Set the mode dial to SCN.

The camera enters Scene Mode last selected. The default setting is (Portrait).



2 Press the INFO button.

The control panel appears.



3 Use the four-way controller (▲▼◀▶) to select [Scene Mode], and press the OK button.

The Scene Mode Palette appears.

4 **Use the four-way controller (▲▼◀▶) to choose a shooting scene.**

When an icon is selected in the Scene Mode Palette, the guide for the selected shooting scene appears.



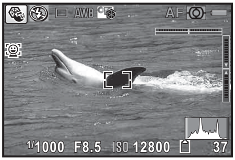
5 **Press the OK button.**

The camera returns to the control panel.

6 **Press the INFO button.**

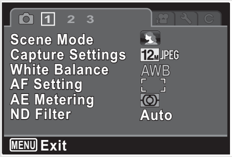
The camera is set to capture status.

To use the flash, slide the ϟ lever to pop up the flash (p.86).



memo

When the **MENU** button is pressed while the mode dial is set to **SCN**, [Scene Mode] appears on the [📷 Rec. Mode 1] menu. Press the four-way controller (▶) to display the Scene Mode Palette and you can select a shooting scene.



Shooting in Various Exposure Modes (P, Tv, Av, M)

Use the exposure modes to change the shutter speed and aperture value and take pictures according to your own photographic vision.

Exposure Mode		Description
P	Program	Automatically sets the shutter speed and aperture value to obtain a proper exposure according to the program line.
Tv	Shutter Priority	Lets you set the desired shutter speed for expressing subject movement.
Av	Aperture Priority	Lets you set the desired aperture value for controlling the depth of field.
M	Manual Exposure	Lets you set the shutter speed and aperture value to capture the picture with creative intent.

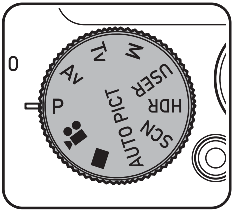
To Select the Exposure Mode

This camera features the following four exposure modes.
The settings available for each exposure mode are as follows.

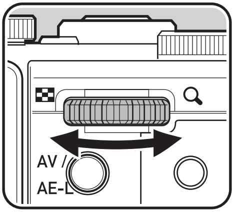
✓: Available #: Restricted ×: Not available

Exposure Mode	EV Compensation	Change Shutter Speed	Change Aperture Value	Change Sensitivity
P Program	✓	#	#	✓
Tv Shutter Priority	✓	✓	×	✓
Av Aperture Priority	✓	×	✓	✓
M Manual Exposure	×	✓	✓	Other than AUTO

1 **Set the mode dial to P, Tv, Av or M.**



2 **Turn the e-dial to adjust the value.**

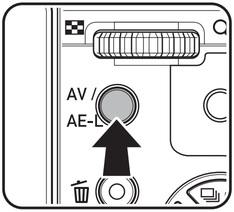


▶ appears on the display before the value that can be changed.
The following parameters can be changed depending on the selected exposure mode.



P	The shutter speed and aperture value are changed so that the exposure amount is maintained (Program Shift).
Tv	Shutter speed
Av	Aperture value
M	Shutter speed and aperture value

In **M** mode, press the **AV/AE-L** button to select the setting (shutter speed or aperture value) to be changed with the e-dial, and then turn the e-dial to change the setting.



Caution

- In **M** mode, EV Compensation is not available.
- [AUTO] cannot be selected for sensitivity.
- Flash modes ⚡A (Auto) and ⚡A👁 (Auto + Red-eye) are not available.

memo

- In **M** mode, the shutter speed and aperture value are adjusted for the optimum exposure when you press the ⦿/🗑 button.
- A warning appears if there is a large difference between the current exposure and the proper exposure. If the difference is greater than ±2.0EV, only the exposure warning icon is displayed. If the difference is ±2.0EV or less, the exposure warning icon is displayed and the difference between the current exposure and the proper exposure is shown in increments of 1/3EV.
- When the shutter speed is set to a speed slower than 1 second, a process to reduce image roughness and unevenness (Noise Reduction) is performed.
- Even when the zoom ratio is changed, the aperture value is maintained. However, when the current aperture value cannot be used with the selected zoom ratio, the closest aperture value is set. In this case, if you change the zoom ratio again and the original aperture value can be used, the setting returns to the original aperture value.

To Use the Bulb Shooting

This is useful when shooting night scenes and fireworks which require long exposures.

1 Set the mode dial to M.

2 Turn the e-dial to the left (⊟), and set the shutter speed to Bulb.

Bulb appears after the slowest shutter speed.



3 Press the shutter release button.

The shutter remains open as long as the shutter release button is kept pressed.

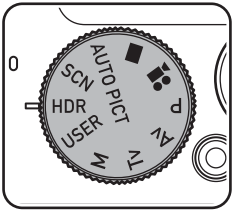
- In Bulb shooting, the following functions are not available.
  - EV Compensation
  - Auto Bracketing
  - AE Lock
  - ⧉ (Continuous Shooting), ⧉L (Burst Shooting(L)), and ⧉H (Burst Shooting(H))
  - **HDR** Capture
  - Shake Reduction
- Bulb shooting ends compulsorily once the exposure time exceeds 30 seconds.

- Use a sturdy tripod to prevent camera shake during Bulb shooting.
- The upper sensitivity limit for Bulb shooting is ISO 1600.
- We recommend using the AC adapter kit K-AC130 (optional) when shooting with a long exposure setting as the battery drain is high during Bulb shooting (p.42).

Taking a Picture in Wide Dynamic Range (HDR Mode)

Three images captured with different exposures can automatically be processed to store a single composite picture, enabling you to obtain an image with wider dynamic range.

1 Set the mode dial to HDR.



2 Press the shutter release button first halfway then fully.

Images of ±0EV, -2.0EV and +2.0EV are continuously captured.
The message [Data being processed] is displayed, and three images are processed to create a composite image.
The composite image is displayed (Instant Review) and stored on an SD Memory Card or in the built-in memory.

memo

- The exposure is adjusted according to the shutter speed, while retaining the aperture value.
- Only the composite picture is stored.
- The File Format **RAW** cannot be selected.
- (Continuous Shooting), (Burst Shooting(L)), (Burst Shooting(H)), and (Auto Bracketing) of drive mode cannot be selected.
- Selecting the **HDR** mode fixes the flash mode to (Flash Off), [Highlight Correction] and [Shadow Correction] of [D-Range Setting] and [Blink Detection] to off.

Storing a composite picture with an HDR Filter effect applied ☞p.104

Using USER Mode

To Save the Settings in USER Mode

By saving the current camera settings, you can easily retrieve them by setting the mode dial to **USER**.
The following settings can be saved:

- Exposure modes **P** (default setting)/**Tv**/**Av**/**M**
- Aperture (only in **Av**/**M** modes)
- Shutter speed (only in **Tv**/**M** modes)
- [Rec. Mode] menu settings
- Flash Mode
- Drive Mode
- Focus Mode
- MF Position
- Exposure compensation range of Auto Bracketing
- AF Point
- Sensitivity
- Type of information display

1 Set the mode dial to P, Tv, Av or M.

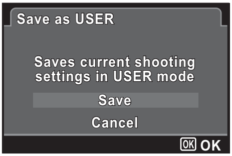
Caution: You can save settings in **USER** mode only when the mode dial is set to **P**, **Tv**, **Av** or **M**.

2 Set the functions to be saved.

3 Use the four-way controller (▲ ▼) to select [Save as USER] in the [Setting 1] menu, and press the four-way controller (▶).

The [Save as **USER**] screen appears.

4 Press the four-way controller (▲) to select [Save].



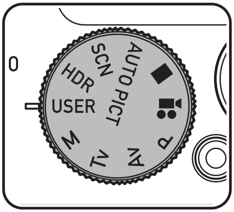
5 **Press the OK button.**

The save process starts.
When the save process is completed, the camera returns to capture or playback mode.

To Take Pictures in USER Mode

1 **Set the mode dial to USER.**

The saved settings are retrieved.



2 **Change the settings already saved in USER mode if necessary.**

3 **To use the flash, slide the ϟ lever.**

The flash pops up (p.86).

4 **Take a picture.**

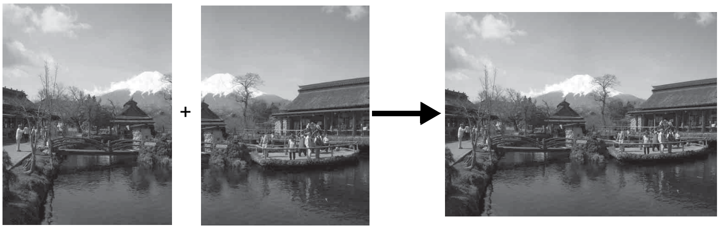
Caution

The settings changed in **USER** mode are valid only when the mode dial is set to **USER**. Changing the capture mode or turning off the power returns the camera to the settings saved with [Save as **USER**]. To change the settings of **USER** mode, perform the operations in [Save as **USER**] again.

Various Shooting Methods

Using the Digital Wide Function (Digital Wide Mode)

In WIDE (Digital Wide) mode, you can stitch two vertical images captured with this camera into a single frame up to approx. 17 mm coverage (35 mm film equivalent).



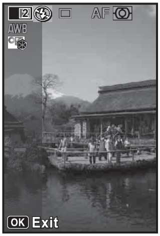
1 **Use the four-way controller (▲▼◄►) to select WIDE from the Scene Mode Palette with the procedure on p.70.**

2 **Press the OK button, and then press the INFO button.**



The camera enters WIDE mode.
Hold the camera vertically and compose the first image (left half of picture).
When the camera detects a person's face, the Face Detection function is activated and the face detection frame appears (p.58).

3 Press the shutter release button to take a shot.



The first captured image is temporarily saved, and the shooting screen for the second image is displayed.

4 Take the second image.

Overlap the image on the preview guide on the left of the screen to compose the second image (right half of picture). Repeat Step 3 to take the second image.
The stitched first and second image appears on the display (Instant Review), and then is saved.

memo

- To minimize distortion when taking the second image, turn the camera so that it pivots around the right edge of the preview guide on the screen.
- Some distortion may result from moving objects, repeating patterns, or if nothing exists when overlapping the first and second image on the preview guide.
- When the Face Detection function (p.107) is set to [On], it works only when taking the first shot.
- The composite image is saved with the pixel size of 5M.

To Cancel after Taking the First Shot

1 When the shooting screen for the second image is displayed in Step 4 on p.79, press the OK button or the four-way controller (▼).

A confirmation dialog appears.

2 Use the four-way controller (▲▼) to select an option, and press the OK button.

Save	Saves the first image and you can retake the first shot. The first image is saved in 3M.
Discard	Discards the first image and you can retake the first shot.

Cancel	Returns to the shooting screen for the second image.

Taking Panoramic Pictures (Digital Panorama Mode)

In ▮■▮ (Digital Panorama) mode, you can stitch together two or three captured frames to create a panoramic photograph with the camera.

1 Use the four-way controller (▲▼◄►) to select ▮■▮ from the Scene Mode Palette with the procedure on p.70.

2 Press the OK button, and then press the INFO button.

The camera enters ▮■▮ mode and the message [Set shift direction] is displayed.

3 Use the four-way controller (◄►) to choose the direction in which the images will be joined.



The screen for taking the first frame is displayed.

When the camera detects a person's face, the Face Detection function is activated and the face detection frame appears (p.58).

4 Press the shutter release button to take a shot.

The screen for taking the second frame is displayed after you take the first frame.

If you select right (►) in Step 3:

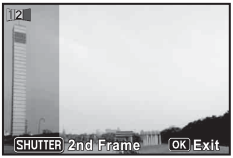
The right edge of the first frame appears in semi-transparent form on the left edge of the display.

If you select left (◄) in Step 3:

The left edge of the first frame appears in semi-transparent form on the right edge of the display.

5 Take the second frame.

Move the camera so that the semi-transparent image and the actual view overlap and press the shutter release button.



6 Take the third frame.

Repeat Steps 4 and 5 to take the third frame.
The panorama images are joined and a stitched together image appears.
The stitched image does not appear when [Instant Review] (p.109) is [Off].

memo
- Some distortion may result from moving objects, repeating patterns, or if nothing exists when overlapping the first and second frames or the second and third frames on the preview guide.
- When the Face Detection function (p.107) is set to [On], it works only when taking the first shot.

To Cancel after Taking the First or Second Frame

1 After shooting the first frame in Step 4 on p.80 or the second frame in Step 5, press the OK button or the four-way controller (▼).

A confirmation dialog appears.

2 Use the four-way controller (▲▼) to select an option, and press the OK button.

Save	Saves the captured image(s) and you can retake the first frame. When this option is selected after shooting the second frame, the first and the second frames are stitched together and saved as a panoramic photograph.
Discard	Discards the captured image(s) and you can retake the first frame.
Cancel	Returns to the previous shooting screen.

memo
Unstitched images captured in ▮■▮ mode are saved with a pixel size of 3M.

Taking Pictures of Your Pet (Pet Mode)

In 🐾 (Pet) mode, the camera automatically releases the shutter when the pet is detected. Also the camera can register pets.

1 **Use the four-way controller (▲▼◄►) to select 🐾 from the Scene Mode Palette with the procedure on p.70.**

2 **Press the OK button, and then press the INFO button.**

The camera enters 🐾 mode, and is set to capture status.
When the camera detects the pet's full face, a pet detection frame appears, and the shutter is automatically released.



To Register the Pet

1 **Press the OK button on the capture status screen in 🐾 mode.**

The pet selection screen appears.



2 **Press the INFO button.**

The pet registration screen appears.
Aiming the camera at the pet's full face automatically releases the shutter and the pet registration confirmation dialog appears.



When you select [Registry] using four-way controller (▲▼) and press the OK button, the picture of the registered pet is indicated on the upper-left corner of the display and the camera returns to capture status.

When the camera detects the pet's full face, a pet detection frame appears, and the shutter is automatically released.
You can also take a picture by pressing the shutter release button.



When you press the **OK** button in the capture status screen, the pet registration screen appears to register another pet. You can register up to three pets.

memo

- When you press the **MENU** button on the pet registration screen, the registration will be canceled and the camera returns to capture status.
- Only dogs and cats can be registered in 🐾 mode. Other animals or human faces cannot be registered. You may not be able to register the pet's face if, for example, the pet's face is too small.
- The camera may not detect the registered pet's face, depending on the shooting situation.
- [Focusing Area] is set to (Tracking) and the flash mode is set to (Flash Off). However, you can change these settings.
- [Focus Assist] is set to □ (Off). However, you can change this setting.

Setting the Shooting Functions

Selecting the Flash Mode

⚡A	Auto	The flash discharges automatically depending on the light conditions. If the Face Detection function is activated, the flash mode is automatically set to ⚡◉.
⊛	Flash Off	The flash does not discharge, regardless of the brightness. Use this mode to take pictures where flash photography is prohibited.
⚡	Flash On	The flash discharges regardless of the brightness.
⚡A◉	Auto + Red-eye	This mode reduces the phenomenon of red eyes caused by the light from the flash being reflected in the subject's eyes. The flash discharges automatically. A pre-flash discharges before the main flash.
⚡◉	Flash On + Red-eye	This mode reduces the phenomenon of red eyes caused by the light from the flash being reflected in the subject's eyes. The flash discharges regardless of the light conditions. A pre-flash discharges before the main flash.
SLOW ⚡	Slow-speed Sync	For taking bright pictures of both people and background indoors and outdoors at night. The flash discharges automatically.
SLOW ◉⚡	Slow-speed Sync+Red-eye	Discharges a pre-flash to reduce the phenomenon of red eyes before discharging the flash with Slow-speed Sync.
SLOW ▶▶⚡	Trailing Curtain Sync	Discharges the flash immediately before closing the trailing curtain of the shutter. Moving objects can be captured as if they are leaving a trail behind.

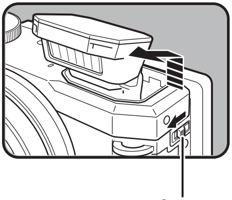
memo

- The flash mode is fixed at ⊛ in the following situations:
  - when (Handheld Night Snap), (Fireworks), (Time-Lapse Movie), (Movie), (High Speed Movie) or **HDR** is selected as the capture mode
  - when (Continuous Shooting), (Burst Shooting(L)) or (Burst Shooting(H)) is selected as the drive mode
  - when ▲ (Infinity) is selected as the focus mode
- In (Green) mode, you can only select ⚡A or ⊛.
- In (Night Scene) mode, you cannot select ⚡A and ⚡A◉.

Using the flash when capturing images at a close distance may cause irregularities in the image due to the light distribution. When using the flash at an extremely close distance, a shadow of the lens may appear in the picture taken.

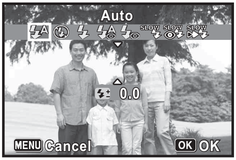
1 Slide the ⚡ lever to the direction of the arrow.

The flash pops up and begins charging.



2 Press the four-way controller (◀) in still-picture capture mode.

The Flash Mode screen appears.



3 Use the four-way controller (◀ ▶) to select a flash mode.

4 Press the OK button.

The setting is saved and the camera returns to capture status.

About the red-eye phenomenon

Taking pictures using the flash may cause the subject's eyes to appear red in the resulting picture. This phenomenon occurs when the light from the flash is reflected in the subject's eyes. It can be reduced by increasing the illumination in the area around the subject and/or decreasing the subject distance and adjusting the lens to wider angle setting. Setting the flash mode to ⚡A◉, ⚡◉ or SLOW ◉⚡ is also an effective way of reducing red eyes.
If the subject's eyes appear red despite such precautions, they can be corrected by the Red-eye Edit function (p.153).

Saving the Flash Mode setting ☞p.121

To Use the Flash

1 **Select a capture mode.**

2 **Slide the ϟ lever.**

The flash pops up and begins charging.
ϟ (red) blinks on the display while charging.
When the flash is fully charged, the icon of the selected flash mode appears on the display (not displayed in ϟA mode).

3 **Press the shutter release button halfway.**

The focus frame (or face detection frame) on the display turns green when the camera focuses on the subject at the correct distance.

4 **Press the shutter release button fully.**

The flash discharges and the picture is taken.

5 **Push the flash down to retract.**

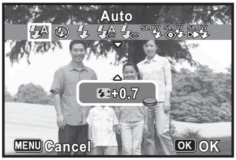
To Compensate Flash Output

You can change the flash output in a range of –2.0 to +1.0 in increments of 1/3 EV.

1 **Press the four-way controller (▼) in Step 2 on p.85.**

2 **Press the four-way controller (◀ ▶) or turn the e-dial.**

The flash compensation value is displayed.
Press the ⦿/🗑 button to reset the value to 0.0.



memo

- When the flash output exceeds its maximum amount, the compensation will not be effective even if the compensation value is set to the plus (+) side.
- Compensating to the minus (-) side may have no effect if the subject is too close, the aperture is set to a large opening, or sensitivity is high.

Selecting the Drive Mode

You can select any drive mode for shooting from among Continuous Shooting, Burst Shooting, Self-timer, Remote Control, and Auto Bracketing.

Continuous Shooting/Burst Shooting(L) /Burst Shooting(H)

Continuous Shooting	Each time a picture is taken, the image is saved in the memory before the next image is taken. The higher the image quality, the longer the interval between shots. You can continue shooting until the memory of the SD Memory Card or the built-in memory is full.
Burst Shooting(L)	Pictures are taken continuously at shorter intervals than that with Continuous Shooting. The interval between shots becomes shorter in the following sequence: Burst Shooting(L), and Burst Shooting(H).
Burst Shooting(H)	

Shooting with Self-timer

This camera provides the following three types of self-timer shooting:

Self-timer	The picture is taken approximately ten seconds after the shutter release button is pressed. Use this mode when you want to be included in a group picture.
2-sec. Self-timer	The picture is taken approximately two seconds after the shutter release button is pressed. Use this mode to avoid camera shake.
3 Shot Self-timer	Three still pictures are taken approximately ten seconds after the shutter release button is pressed.

Shooting with Remote Control

The shutter can be released from a distance by using an optional remote control unit.
You can select from the following two types of remote control shooting:

Remote Control	The shutter will be released after about three seconds when the shutter release button on the remote control unit is pressed.
0-sec Remote Control	The shutter will be released immediately when the shutter release button on the remote control unit is pressed.

To Shoot while Automatically Changing the Exposure (Auto Bracketing)

When the shutter release button is pressed once, three consecutive pictures at different exposure levels are taken so that you can select the best one later.
The shooting order is: correct exposure → negative compensation → positive compensation.

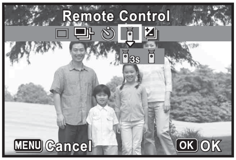
memo You can change the order of three shots using [2. Bracketing Order] in the [C Custom 1] menu (p.67).

To Select the Drive Mode

1 Press the four-way controller (▲) in capture mode.

The Drive Mode screen appears.

2 Use the four-way controller (◄ ►) or the e-dial to select a drive mode and press the OK button.



To select (Continuous Shooting), (Burst Shooting(L)), (Burst Shooting(H)), (Self-timer), (2-sec. Self-timer), (3 Shot Self-timer), (Remote Control), (0-sec Remote Control), first select the current mode, press the four-way controller (▼), then use the four-way controller (◄ ►) to select the new mode.
The camera is ready to take a picture using the selected drive mode.

Caution
- Focusing may be compromised if you move the camera while the self-timer lamp is blinking when taking still pictures.
- The flash does not discharge in , , or mode.
- In the following modes, you cannot select , , , , or : (Green), HDR, (Fireworks), WIDE (Digital Wide), (Digital Panorama), or (Miniature) mode or when recording a movie.
- The drive mode cannot be selected when (Handheld Night Snap) is set.

- For movies using the self-timer, recording will start ten seconds or two seconds after the shutter release button or the Movie button is pressed.
- Press the shutter release button halfway while the self-timer is running to stop the countdown and press fully to restart the countdown.
- ⏲2s cannot be selected while the ● (Green) mode settings remain as the default. However, it can be selected if you select ⏲2s in another shooting mode first, and then switch the shooting mode to ● (Green).
- In ⧉, ⧉L or ⧉H mode, the number of pictures that can be taken consecutively and the frame rate per second vary depending on the shooting condition.
- In ⧉, ⧉L or ⧉H mode, the focus, exposure and white balance are locked with the first shot.
- When [Face Detection] is set to [On] (p.107) in ⧉, ⧉L or ⧉H mode, the function works only for the first shot.
- When ⧉, ⧉L or ⧉H is selected as the drive mode in AUTO PICT (Auto Picture) mode, pictures are taken consecutively in shooting mode selected for the first shot.
- When Instant Review is activated in ⧉ mode (p.109), the third picture taken is shown in Instant Review after shooting (p.57).
- When you set [5. AF with Remote Control] (p.67) in the [C Custom 1] menu to [On], the Autofocus function is activated in Remote Control shooting.

Selecting the Focus Mode

AF	Standard	This mode is used when the distance to the subject is 40 cm (16 in.) or more. The camera is focused on the subject in the autofocus area when the shutter release button is pressed halfway. (Default setting)
🌷	Macro	This mode is used when the distance to the subject is approx. 5 cm to 50 cm (2 in. to 20 in.). The camera is focused on the subject in the autofocus area when the shutter release button is pressed halfway.
🌷1cm	1cm Macro	This mode is used when the distance to the subject is 1 cm to 20 cm (0.4 in. to 8 in.).
PF	Pan Focus	This mode is used when focusing on subjects near and far in a wide range.
▲	Infinity	This mode is used for taking distant objects. The flash is set to ⊘ (Flash Off).
MF	Manual Focus	This mode lets you adjust the focus manually.

1 **Press the four-way controller (▶) in capture mode.**

The Focus Mode screen appears.



2 **Use the four-way controller (◀ ▶) or the e-dial to select a focus mode, and press the OK button.**

The setting is saved and the camera returns to capture status.

memo

- In (Green) mode, you can only select AF or 🌷.
- The focus mode is fixed at ▲ in (Fireworks) mode.
- When shooting with 🌷 selected, if the subject is further than 50 cm away, the camera automatically focuses to ∞ (Infinity). When shooting with AF selected, if the subject is closer than 50 cm, the camera automatically focuses up to the 🌷 (Macro) area. In AF, 🌷, or 1cm mode, you can also take a picture by pressing the shutter release button fully even when the focus is not set.

Saving the Focus Mode setting ☞p.121

To Set the Focus Manually (Manual Focus)

1 **Press the four-way controller (▶) in capture mode.**

2 **Use the four-way controller (▶) to select MF, and press the OK button.**

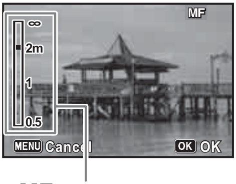
The central portion of the image is magnified to full screen on the display.

3 **Use the four-way controller (▲ ▼) to adjust the focus.**

The **MF** indicator appears on the display to indicate the approximate distance to the subject. Adjust the focus using the indicator as a guide.

▲ for distant focus

▼ for closer focus



2 Taking Pictures

4 Press the OK button.

The focus is fixed and the camera is ready to take a picture.
After the focus is fixed, you can press the four-way controller (▶) again to display the **MF** indicator and readjust the focus.

Caution: The shooting mode and drive mode cannot be changed while the **MF** indicator is displayed.

memo: To switch from **MF** to another focus mode, press the four-way controller (▶) while the **MF** indicator is displayed.

Selecting the Autofocus Settings

You can set the autofocus area and focusing method.

1 Use the four-way controller (▲▼) to select [AF Setting] in the [📷 Rec. Mode 1] menu.

2 Press the four-way controller (▶).

The [AF Setting] screen appears.

To Set the Autofocus Area (Focusing Area)

You can change the autofocus area (Focusing Area).

Auto	The camera focuses on the nearest subject in the 9 focusing areas.
Spot	The camera focuses on the subject in a specific focusing area in the center of the display. The camera sets a narrow focusing area, making easier for you to focus on a specific subject.
Tracking	The camera continues to focus on the moving subject while you are pressing the shutter release button halfway.
Select	You can select the desired focusing area from 25 focusing areas (p.93).

3 Use the four-way controller (▲▼) to select [Focusing Area], and press the OK button.

4 Use the four-way controller (▲▼) to select a focusing area, and press the OK button.

The setting is saved.

memo
- In (Movie), (Time-Lapse Movie) and (High Speed Movie) modes, the focusing area cannot be set to .
- In (Green) and (Fireworks) modes, the focusing area is fixed at [ ].
- The [Focusing Area] setting can also be changed using the control panel.

To Set the Autofocus Mode (AF Mode)

Set the timing of autofocusing.

AF.S	Activates the autofocus system when the shutter release button is pressed halfway.
AF.C	Intermittently activates the autofocus system while the shutter release button is kept pressed halfway, maintaining the focus on the subject.

3 Use the four-way controller (▲▼) to select [AF Mode], and press the OK button.

4 Use the four-way controller (▲▼) to select either [AF.S] or [AF.C], and press the OK button.

memo
- The [AF Mode] setting can also be changed using the control panel.
- When you select [AF.C], the [Focusing Area] setting is fixed to [ ].

To Set the Focus Assist Light

The Focus Assist light aids in focusing on dark subjects. This helps you to focus on the subject in low light conditions where auto focus does not work properly. The Focus Assist light is emitted from the self-timer lamp part.

3 Use the four-way controller (▲▼) to select [Focus Assist].

4 Use the four-way controller (◀ ▶) to select ☑ (On) or □ (Off).

The setting is saved.

Caution

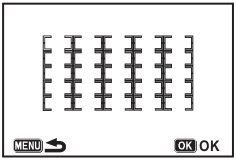
- Looking at the light directly does not pose a safety but you may feel dazzled. Do not look directly into the emitter from a very short distance.
- The camera does not emit the Focus Assist light under the following conditions:
  - when the capture mode is set to (Time-Lapse Movie), (Movie) or (High Speed Movie) mode
  - when ▲ (Infinity), **PF** (Pan Focus) or **MF** (Manual Focus) is selected as the focus mode
- The default setting in (Pet) mode and (Candid Capture) mode is □ (Off).

To Select the Focusing Point (Select)

When you choose [Select] for [Focusing Area], select a point from the 25 focusing areas.

1 Press the four-way controller (▶) in capture mode.

The screen for selecting Focusing Area is displayed.



2 Use the four-way controller (▲ ▼ ◀ ▶) to select a Focusing Area.

3 Press the OK button.

The setting is saved and the shooting display is resumed.
If the **MENU** button is pressed in place of the **OK** button, the Focus Mode screen is displayed.

memo

- The Focusing Area selection is allowed only when the focus mode is **AF** (Standard), (Macro) or (1cm Macro)
- The Focusing Area setting is common to **AF** (Standard), (Macro) and (1cm Macro).

Setting the Exposure

To Set the Sensitivity

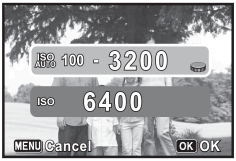
You can set the sensitivity to suit the brightness of the surroundings. The sensitivity can be set to AUTO or within a sensitivity range equivalent to ISO 100 to 12800 in increments of 1 EV or 1/3 EV. The default setting is AUTO.

1 Press the four-way controller (▼) in capture mode.

The Sensitivity setting screen appears.

2 Use the four-way controller (▲▼) to select [ISO AUTO] or [ISO].

ISO AUTO	Sets the range to be adjusted automatically.
ISO	Sets the fixed value.



3 Use the four-way controller (◄►) or the e-dial to change the sensitivity value, and press the OK button.

The camera is ready to take a picture.

memo

- When the capture mode is set to **HDR**, the sensitivity is fixed to AUTO and cannot be changed.
- When the mode dial is set to **M** (Manual Exposure), [ISO AUTO] is not displayed. When the sensitivity is set to AUTO and the mode dial is set to **M**, the sensitivity is fixed to the last set value.
- The minimum sensitivity is doubled when [Highlight Correction] (p.104) is set to [On].
- The sensitivity steps can be changed to [1EV] or [1/3EV] with [8. Sensitivity Steps] (p.67) in the [**C** Custom 2] menu.

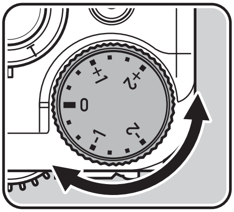
Expanding the Dynamic Range
Dynamic range is the ratio that indicates the light level expressed by the CMOS sensor pixels from bright areas to dark areas. The larger it is, the better the whole range from dark to bright areas will appear in the picture.
By expanding the dynamic range, you can expand the light level expressed by the CMOS sensor pixels, making it more difficult for bright areas or dark areas to occur in the image.
To expand the dynamic range, make the settings in [D-Range Setting] in the [📷 Rec. Mode 2] menu (p.104).

To Adjust the Exposure

This allows you to deliberately overexpose (brighten) or underexpose (darken) your picture. The compensation value can be set between -2 and +2.

1 Turn the EV compensation dial.

The exposure is adjusted.



The compensation value is temporarily displayed when adjusted.



EV compensation value

- EV Compensation is not available when the capture mode is set to **M** (Manual Exposure).
- The set compensation value is not canceled by turning the camera off or by switching to another capture mode.

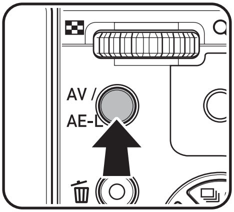
To Lock the Exposure Before Shooting (AE Lock)

AE Lock is a function that locks the exposure (exposure amount) prior to taking a picture. Use this when the subject is too small or is backlit and a proper exposure setting cannot be obtained.

1 Set the exposure, and press the AV/AE-L button.

The camera locks the exposure amount at that instant.

✱ appears on the display while AE Lock is engaged.



- You will hear a beep when AE Lock is activated. The beep sound can be turned off (p.172).
- When any of the following operations are performed, AE Lock is canceled.
  - the **AV/AE-L** button is pressed again
  - the ▶ button, **MENU** button, **INFO** button or power button is pressed
  - the mode dial is turned
  - the Flash Mode, Focus Mode, Drive Mode or Sensitivity setting is displayed using the four-way controller (▲▼◀▶).
  - the optical zoom factor is changed using the zoom lever
- AE Lock is not available when the capture mode is set to **M** (Manual Exposure).
- The exposure is also locked when the focus is locked. If you do not want to lock the exposure when the focus is locked, set [1. AE-L with AF Locked] (p.67) in the [**C** Custom 1] menu to [Off].

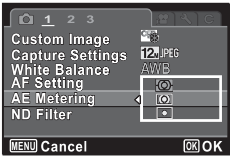
To Select the AE Metering Method

Choose the part of the sensor to use for measuring brightness and determining exposure. The following three methods are available.

(Multi-segment icon)	Multi-segment metering	The sensor meters the brightness in multiple different zones. (Default setting) Even in backlit locations, this mode automatically determines what level of brightness is in which portion and automatically adjusts exposure.
(Center-weighted icon)	Center-weighted metering	Metering is weighted at the center of the sensor. The sensitivity increases at the center and no automatic adjustment is performed even during backlit scenes.
(Spot icon)	Spot metering	The brightness is measured only within a limited area at the center of the sensor. You can use this in combination with the AE Lock function (p.96) when the subject is extremely small and a correct exposure is difficult to obtain.

1 **Use the four-way controller (▲▼) to select [AE Metering] in the [Rec. Mode 1] menu, and press the four-way controller (▶).**

A pull-down menu appears



2 **Use the four-way controller (◀▶) to select a metering method, and press the OK button.**

The setting is saved.

memo

- When the capture mode is set to **AUTO PICT** (Auto Picture), **SCN** (Scene), or (Movie), the metering method is fixed to (Multi-segment metering).
- The metering method can also be changed using the control panel.

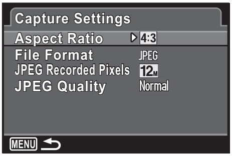
Setting the Recording File Format

Set the aspect ratio, file format, number of recorded pixels, and quality level of still pictures.

1 **Use the four-way controller (▲▼) to select [Capture Settings] in the [📷 Rec. Mode 1] menu, and press the four-way controller (▶).**

The [Capture Settings] screen appears.

2 **Use the four-way controller (▲▼) to select [Aspect Ratio], [File Format], [JPEG Recorded Pixels] or [JPEG Quality], and press the four-way controller (▶).**



Refer to p.98 - p.100 for details about the settings.

3 **Use the four-way controller (▲▼) to change the settings, and press the OK button.**

4 **Press the MENU button twice.**

The screen that was displayed before selecting the menu appears again.

memo

- The [Aspect Ratio], [File Format], [JPEG Recorded Pixels], and [JPEG Quality] settings can also be changed using the control panel.
- When the [File Format], [JPEG Recorded Pixels], or [JPEG Quality] setting is changed, the number of images that can be recorded for that setting appears on the display.

Aspect Ratio

Select the horizontal and vertical ratio of images from 4:3 (default setting), 16:9, 3:2 or 1:1. The aspect ratio of the camera display is 3:2, so if a different aspect ratio is selected, the display changes to match the set aspect ratio.

File Format

You can set the format of image files.

JPEG	Captures images in JPEG format. (Default setting) You can change the number of recorded pixels in [JPEG Recorded Pixels], and the image quality level in [JPEG Quality].
RAW	The RAW format is a CMOS sensor output format saved without processing. RAW files are recorded with the general-purpose DNG (Digital Negative) format designed by Adobe Systems. Effects of White Balance and Custom Image are not applied to the captured images, but they are saved as actual original information. When you perform the development process by using the RAW Development function (p.158), or using the provided software "SILKYPIX Developer Studio 3.0 LE" (p.198), you can create JPEG images with these effects.
RAW+	Captures images in both RAW and JPEG formats.

Caution: When the capture mode is set to **HDR**, the image is saved in JPEG format, regardless of the [File Format] setting.

JPEG Recorded Pixels

Sets the recording size of images when [File Format] is set to [JPEG]. The selectable sizes vary according to the [Aspect Ratio] setting.

Aspect Ratio	Recorded Pixels	Pixels
4:3	12M	4000×3000 (default setting)
	7M	3072×2304
	5M	2592×1944
	3M	2048×1536
16:9	9M	3968×2232 (default setting)
	5M	3072×1728
	3M	2560×1440
	2M	2048×1152

Aspect Ratio	Recorded Pixels	Pixels
3:2	10M	3984×2656 (default setting)
	6M	3072×2048
	4M	2592×1728
	2M	2016×1344
1:1	9M	2992×2992 (default setting)
	5M	2304×2304
	3M	1936×1936
	2M	1536×1536

memo

- The more pixels there are, the bigger the file size. The file size will also vary according to the [JPEG Quality] setting.
- The quality of a captured image depends on the exposure control, resolution of the printer and a variety of other factors.
- The aspect ratio is fixed to 4:3 when capture mode is WIDE (Digital Wide) or (Digital Panorama).

JPEG Quality

You can set the image quality level (compression ratio). The default setting is “Fine”.

Fine	Quality: clearer File size: larger
Normal	Quality: grainier File size: smaller

Setting the White Balance

White Balance is a function for adjusting the color of an image so that white objects appear white. Set the white balance if you are not satisfied with the color balance of pictures taken with white balance set to **AWB** (Auto White Balance), or to intentionally apply a creative effect to your images.

Item		Setting	Color Temperature *1
AWB	Auto White Balance	Automatically adjusts the white balance. (Default setting)	Approx. 4,000 to 8,000K
	Daylight	For use when taking pictures in sunlight.	Approx. 5,200K
	Shade	For use when taking pictures in the shade. It reduces the bluish color tones in a picture.	Approx. 8,000K
	Cloudy	For use when taking pictures on cloudy days.	Approx. 6,000K
	Fluorescent Light	For use when taking pictures under fluorescent lighting. Select the type of fluorescent light. **D** Fluorescent - Daylight Color **N** Fluorescent - Daylight White **W** Fluorescent - Cool White **L** Fluorescent - Warm White	 Approx. 6,500K Approx. 5,000K Approx. 4,200K Approx. 3,000K
	Tungsten Light	For use when taking pictures under light bulbs or other tungsten light. It reduces the reddish color tones in a picture.	Approx. 2,850K
WB	Flash	For use when taking pictures using the built-in flash.	Approx. 5,400K
	Manual White Balance	Use this to manually adjust the white balance according to the lighting when taking pictures.	—

*1 The color temperatures (K) shown above are all estimates. These do not indicate precise colors.

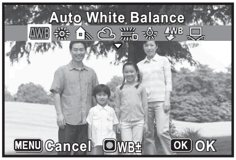
Caution: The white balance is fixed to **AWB** when the capture mode is set to **AUTO PICT** (Auto Picture) or **SCN** (Scene) mode.

1 Use the four-way controller (▲▼) to select [White Balance] in the [Rec. Mode 1] menu, and press the four-way controller (▶).

The White Balance setting screen appears.

2 Use the four-way controller (◀ ▶) to select the white balance.

When (Fluorescent Light) is selected, press the four-way controller (▼) and use the four-way controller (◀ ▶) to select **D**, **N**, **W**, or **L**.



3 Press the OK button.

The [Rec. Mode 1] menu is resumed.

4 Press the MENU button.

The camera is ready to take a picture.

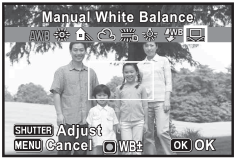
memo

- Because the light source changes when a flash discharges, you can set the white balance for when the flash discharges. Select [Auto White Balance], [Unchanged] or [Flash] for [3. WB When Using Flash] (p.67) in the [C Custom 1] menu.
- When [Tungsten Light] is selected, the color tone can be compensated. Select [Subtle Correction] or [Strong Correction] for [4. AWB in Tungsten Light] (p.67) in the [C Custom 1] menu.
- The [White Balance] setting can also be changed using the control panel.

To Adjust the White Balance Manually

You can adjust the white balance depending on the light source when taking pictures. With the manual white balance, the camera can store delicate shades that cannot be precisely adjusted with the white balance preset values provided in the camera. This provides the optimum white balance for your surroundings.

1 Select in Step 2 on p.102.



2 Under the light you wish to measure the white balance of, fully display a white sheet of paper on the display, or select a white area as the subject.

3 Press the shutter release button fully.

The white balance is automatically adjusted.

4 Press the OK button.

The [📷 Rec. Mode 1] menu is resumed.

5 Press the MENU button.

The camera is ready to take a picture.

> memo
> - No image is recorded when the shutter release button is pressed to adjust the white balance.
> - The message [Cannot process correctly] appears when measuring is unsuccessful. Press the OK button while displayed to remeasure the white balance.
> - If a picture is extremely overexposed or underexposed, the white balance may not be adjusted. In this case, adjust exposure to the correct exposure before adjusting the white balance.

To Fine-tune the White Balance

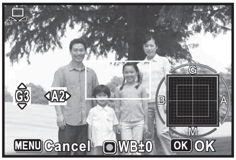
You can fine-tune the white balance setting.

1 Select the desired white balance in Step 2 on p.102.

2 Press the ⊙/🗑 button.

The fine-tuning screen appears.

3 Fine-tune the white balance.



Available operations

Four-way controller (▲▼)	Adjusts the tone of the colors between green (G) and magenta (M).

Four-way controller (◀ ▶)	Adjusts the tone of the colors between blue (B) and amber (A).
⦿/🗑 button	Resets the adjustment value.

4 **Press the OK button.**

The camera returns to the White Balance setting screen.

5 **Press the OK button.**

The [📷 Rec. Mode 1] menu is resumed.

6 **Press the MENU button.**

The camera is ready to take a picture.

Selecting HDR Capture Mode

When adapting three images captured in **HDR** mode, you can apply an HDR Filter effect. Select the level of the effect.

Standard	For storing the composite picture as-is
Strong 1	For applying an HDR Filter effect to the composite picture before storing
Strong 2	For applying an HDR Filter effect stronger than that with [Strong 1] to the composite picture before storing

1 **Use the four-way controller (▲ ▼) to select [HDR Capture] in the [📷 Rec. Mode 2] menu, and press the four-way controller (▶).**

A pull-down menu appears

2 **Use the four-way controller (▲ ▼) to select [Standard], [Strong 1] or [Strong 2], and press the OK button.**

The setting is saved.

Compensating for Brightness (D-Range Setting)

You can expand the dynamic range and prevent bright and dark areas from occurring. [Highlight Correction] adjusts the bright areas when the image is too bright and [Shadow Correction] adjusts the dark areas when the image is too dark.

1 **Use the four-way controller (▲▼) to select [D-Range Setting] in the [📷 Rec. Mode 2] menu, and press the four-way controller (▶).**

The [D-Range Setting] screen appears.

2 **Use the four-way controller (▲▼) to select [Highlight Correction] or [Shadow Correction], and press the four-way controller (▶).**

3 **Change the setting.**

For [Highlight Correction]

Use the four-way controller (▲▼) to select [Auto], [On] or [Off], and press the OK button.

When you select [Auto], the camera switches between [On] and [Off] automatically.

For [Shadow Correction]

Use the four-way controller (◀▶) to switch between ☑ (On) and □ (Off).

memo

- When [Highlight Correction] is set to [On], the minimum sensitivity is doubled.
- The [Highlight Correction] and [Shadow Correction] settings can also be changed using the control panel.

Setting the ND Filter

You can set whether to use the ND filter.

Auto	The ND filter is used when the camera determines that the filter is necessary. (Default setting) Cannot be selected when capture mode is M (Manual Exposure) or 🎥 (Movie).
On	The ND filter is always used.
Off	The ND filter is not used.

1 **Select [ND Filter] in the [📷 Rec. Mode 1] menu and press the four-way controller (▶).**

2 Use the four-way controller (▲▼) to select [Auto], [On], or [Off], and press the OK button.

memo

- When you switch the camera to M (Manual Exposure) or 🎥 (Movie) mode with [Auto] selected, the setting is automatically changed to [Off].
- The setting is fixed to [Auto] in AUTO PICT (Auto Picture) mode or is fixed to [Off] in ❋ (Fireworks) mode.
- The [ND Filter] setting can also be changed using the control panel.

Correcting Lens Distortion (Distortion Correction)

You can reduce lens distortions occurring due to lens properties.

1 Use the four-way controller (▲▼) to select [Distortion Corr.] in the [📷 Rec. Mode 2] menu.

2 Use the four-way controller (◀▶) to switch between ☑ (On) and □ (Off).

memo

The effects of the Distortion Correction function may be barely noticeable in some cases depending on the shooting conditions and other factors.

Setting the Shake Reduction

By using this function, you can correct camera shake during shooting. You can select the optical correction only (Sensor Shift) or both the optical and electronic correction (Dual). The default setting is [Sensor Shift].

Sensor Shift	For correcting camera shake optically only
Dual	For correcting camera shake both optically and electronically
Off	Neither optical nor electronic camera shake correction is performed.

1 **Use the four-way controller (▲▼) to select [Shake Reduction] in the [Rec. Mode 2] menu, and press the four-way controller (▶).**

A pull-down menu appears.

2 **Use the four-way controller (▲▼) to select the Shake Reduction type, and press the OK button.**

The setting is saved.

memo

- In (Green) mode, the setting is fixed to [Sensor Shift].
- In (Handheld Night Snap) mode, the setting is fixed to [Dual].
- [Dual] cannot be set in the following situations. When [Dual] has been selected, the setting is changed to [Sensor Shift]:
  - when (Fireworks), WIDE (Digital Wide), (Digital Panorama) or HDR mode is selected as the capture mode
  - when the sensitivity is set to 3200 or higher
  - when (Self-timer), (Continuous Shooting), (Burst Shooting(L)) or (Burst Shooting(H)) is selected as the drive mode
  - when the flash mode is set to (Flash On), SLOW (Slow-speed Sync), (Flash On + Red-eye), SLOW (Slow-speed Sync+Red-eye) or SLOW (Trailing Curtain Sync)
  - when the picture is taken without pressing the shutter release button halfway
- For correcting camera shake in (Movie) or (Time-Lapse Movie) mode, use the Movie SR function (p.119).
- When [Dual] is set, the optical correction is used whenever the camera can correct shaking optically.
- The [Shake Reduction] setting can also be changed using the control panel.

Setting the Face Detection Function

The Face Detection function locates faces in the frame and automatically adjusts the focus and exposure for those faces. You can change the setting of the function so that the camera will automatically release the shutter when one or more of the subjects smile. The default setting is [On] for [Face Detection].

On	The camera detects a person's face.
Smile	The camera automatically release the shutter when your subject smiles.

Off	The camera does not detect a person's face.

1 Use the four-way controller (▲▼) to select [Face Detection] in the [📷 Rec. Mode 2] menu, and press the four-way controller (▶).

A pull-down menu appears.

2 Use the four-way controller (▲▼) to select an option.

3 Press the OK button.

The setting is saved.
The Face Detection icon appears on the display.

(icon)	When [Face Detection] is set to [On]
(icon)	When [Face Detection] is set to [Smile]

memo

- Face Detection AF and AE may not work if the subject is wearing sunglasses, has part of his/her face covered or is not looking toward the camera.
- If the camera cannot detect the subject's face, the camera focuses using the setting currently selected in [Focusing Area].
- When [Face Detection] is set to [Smile], the shutter may not be released automatically because the Smile Capture function may not work in some situations, such as when the detected face is too small. If this happens, press the shutter release button to release the shutter.
- [Face Detection] cannot be set to [Off] in AUTO PICT (Auto Picture), (Portrait), (Night Scene Portrait), or (Kids) mode.
- [Face Detection] is automatically set to [On] in (Green), AUTO PICT (Auto Picture), (Portrait), (Night Scene Portrait), or (Kids) mode. When switching to another mode from one of these modes, the Face Detection setting returns to the previous setting.
- The Face Detection function is fixed to [On] in (Pet) mode.
- For movies, the Face Detection function is activated before recording starts. The face detection frame is not displayed while recording a movie.

Setting the Blink Detection Function

This specifies whether the Blink Detection function works when the Face Detection function is activated.

1 Use the four-way controller (▲ ▼) to select [Blink Detection] in the [📷 Rec. Mode 2] menu.

2 Use the four-way controller (◀ ▶) to select ☑ or □.

☑ Blink Detection function works (default setting).

□ Blink Detection function does not work.

memo

- If the Blink Detection function worked when shooting, the message [Closed eyes have been detected] appears for 3 seconds during Instant Review.
- The Blink Detection function cannot be set in **HDR**, WIDE (Digital Wide), (Digital Panorama), (Time-Lapse Movie), (Movie) or (High Speed Movie) mode.

Blink Detection ☞p.57

Setting the Instant Review

You can set the Instant Review displayed immediately after images are shot.

1 Use the four-way controller (▲ ▼) to select [Instant Review] in the [📷 Rec. Mode 3] menu, and press the four-way controller (▶).

2 Press the four-way controller (▶), use the four-way controller (▲ ▼) to select a display time, and press the OK button



3 Use the four-way controller (▲ ▼) to select [Zoom Instant Review], [Histogram] or [Highlight Alert], and use the four-way controller (◀ ▶) to switch between ☑ (On) and □ (Off).

Zoom Instant Review	You can enlarge the image with the e-dial (p.131).

Histogram	Shows the brightness distribution of an image (p.27).
Highlight Alert	Bright (overexposed) portions blink red (p.29).

4 **Press the MENU button twice.**

The screen that was displayed before selecting the menu appears again.

Instant Review ☞p.57

Setting the Finishing Image Tone (Custom Image)

Select the desired picture style from the following modes and enjoy taking pictures with a creative finishing tone.

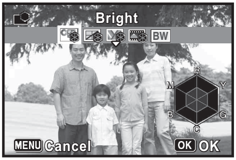
Image Tone	Image
Bright	Saturation, hue, and contrast will be rather high to create a bright sharp image. (Default setting)
Natural	Creates a natural look that is close to the actual color.
Vibrant	Changes the color slightly to create an antique look.
Reversal Film	Creates a picture with strong image contrast as if taken with a reversal film.
Monochrome	Takes pictures using a B&W color filter.

Caution: The setting is not allowed when the capture mode is **AUTO PICT** (Auto Picture), **SCN** (Scene), or ⬬ (Green).

1 **Use the four-way controller (▲▼) to select [Custom Image] in the [◘ Rec. Mode 1] menu, and press the four-way controller (▶).**

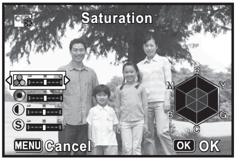
The screen for selecting custom images appears.

2 **Use the four-way controller (◄ ►) or the e-dial to select a custom image, and press four-way controller (▼).**



The screen for selecting parameters appears.

3 **Use the four-way controller (▲ ▼) to choose a parameter you want to change.**



The following parameters can be changed according to the selected image finishing tone.

Image Tone	Parameter
Bright/Natural/Vibrant	Saturation: -2 to +2
	Hue: -2 to +2
	Contrast: -1 to +1
	Sharpness: -1 to +1
Reversal Film	Sharpness: -1 to +1
Monochrome	Filter Effect: None/Green/Red/Blue/Infrared Filter
	Tone Adjustment: Blue2/Blue1/Standard/Sepia1/ Sepia2
	Contrast: -1 to +1
	Sharpness: -1 to +1

4 **Use the four-way controller (◄ ►) or the e-dial to change the settings.**

The background image changes according to the settings.
You can check the saturation, hue, contrast and sharpness with the radar chart.

5 **Press the OK button.**

The screen that was displayed in Step 2 appears again.

- Pressing the ⦿/🗑 button resets the current value of the selected parameter to the default value.
- The [Custom Image] setting can also be changed using the control panel.

Setting the Date Imprint Function

You can choose whether to imprint the date and/or time when taking still pictures.

1 Use the four-way controller (▲▼) to select [Date Imprint] in the [📷 Rec. Mode 3] menu, and press the four-way controller (▶).

A pull-down menu appears.

2 Use the four-way controller (▲▼) to select the Date Imprint details.

Choose [Date], [Date & Time], [Time] or [Off].

3 Press the OK button.

The setting is saved.

Caution

- The date and/or time imprinted with the Date Imprint function cannot be deleted.
- Note that if the printer or the image editing software is set to print the date and the images to be printed already have the date and/or time imprinted, the imprinted dates and/or times may overlap.

memo

- DATE appears on the display in still-picture capture mode when [Date Imprint] is set.
- The date and/or time are imprinted on the picture with the date format style set with “Setting the Date and Time” (p.51).

Recording Movies

You can record movies by setting the 🎥 icon on the mode dial to the dial indicator.

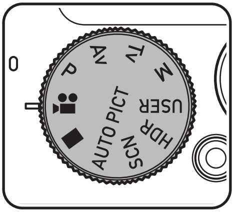
Selecting the Movie Mode

There are three movie recording modes. Choose your desired mode.

Modes		Characteristics
🎥	Movie	For recording movies.
🎥	Time-Lapse Movie	Captures frames for fast motion playback.
🎥HS	High Speed Movie	Captures frames for slow motion playback.

1 Set the mode dial to 🎥.

The camera enters the movie mode last selected. The default setting is 🎥 (Movie).



2 Press the four-way controller (▼).

The Movie Mode Palette appears.

3 Use the four-way controller (◄ ►) to choose a movie mode.

When an icon is selected in the Movie Mode Palette, the guide for the selected movie mode appears.



Movie Mode Palette

4 Press the OK button.

The movie mode is selected, and the camera is ready for recording movies.
The selected movie mode is saved and retrieved when the mode dial is set to 🎥.

Cautions for 🎥 (Movie), 🎥 (Time-Lapse Movie) and 🎥HS (High Speed Movie) in common

- The flash cannot be used.
- The AE metering method is fixed to ⊡ (Multi-segment) and the sensitivity is fixed to ISO AUTO.
- Only Standard, Self-timer or Remote Control can be selected for the drive mode.
- Optical Shake Reduction is not performed.
- Select the focus mode before recording starts. The focus mode cannot be changed during recording.
- The focus can be adjusted manually before recording starts if the focus mode is set to MF (Manual Focus). The focus cannot be adjusted during recording.
- When the mode dial is set to 🎥, the Face Detection function is automatically set to [On]. If you want to set it to [Smile] or [Off], change the setting in the [📷 Rec. Mode 2] menu before movie recording starts (p.107).
- When the Face Detection function is set to [Smile] and the focus mode is set to AF (Standard) or 🌷 (Macro), movie recording starts automatically when the camera detects the subject's smile. However, depending on the condition of the detected faces, movie recording may not start automatically, because the Smile Capture function may not work. If this happens, press the shutter release button to start recording a movie.
- In 🎥HS (High Speed Movie) mode, [Movie SR] (Movie Shake Reduction) is fixed to □ (Off).

Recording a Movie

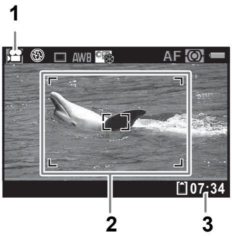
This mode enables you to record movies. Sound is recorded at the same time.

1 Set the mode dial to 🎥 or choose a movie mode using the Movie Mode Palette (p.113), and press the OK button.

2 Press the shutter release button halfway.

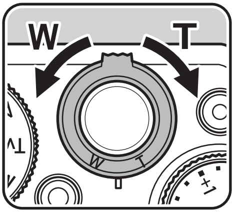
The following information appears on the display.

1 Movie Mode icon
2 Focus frame (does not appear during recording)
3 Remaining recordable time



You can change the captured area by turning the zoom lever to the left or right.

Right (**T**) Enlarges the subject.
Left (**W**) Widens the area that is captured by the camera.



When you press the shutter release button halfway, AE adjustment and AE Lock are performed.
Autofocusing and focus lock are also performed.

3 Press the shutter release button fully.

Recording starts.
In [Movie icon] (Movie) or [Time-Lapse Movie icon] (Time-Lapse Movie) mode, you can record continuously up to 25 minutes.
In [High Speed Movie icon] (High Speed Movie) mode, you can record continuously up to 15 seconds.

Saving a still picture during movie recording

- If you press the **OK** button during movie recording, a still picture is captured at the moment you pressed the button (up to three still pictures per each continuous movie recording, with the focus fixed at the start of recording and the number of recorded pixels fixed to 12M). The captured still picture will be saved when the movie recording is stopped.
- The angle of view may change, depending on the number of recorded pixels for movies.
- The image may be distorted, depending on recording conditions.

4 Press the shutter release button fully.

Recording stops.

Playing Back Movies ☞p.124

memo

- When you set [Enable Autofocus] or [Enable Optical Zoom] in the [Movie 1] menu to ☑ (On), the autofocus system or the optical zoom can be used during movie recording. (Note that the working sound may be recorded with the movie.)
- In (Time-Lapse Movie) and (High Speed Movie) modes, the number of recorded pixels is fixed to 640×480.
- In (Time-Lapse Movie) mode, no sound is recorded.

To Keep the Shutter Release Button Pressed

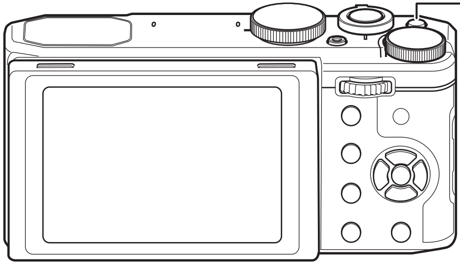
If you keep the shutter release button pressed for one second or more, recording will continue as long as you keep the button pressed. Recording stops when you take your finger off the shutter release button.

Recording a Movie Quickly Using the Movie Button

This camera starts/stops movie recording simply by pressing the Movie button, without setting the mode dial to . This is useful when you want to start recording quickly.

memo

- The Movie button functions only in still-picture capture mode. It cannot be used in movie mode or playback mode.
- The shutter release button is disabled when recording started with the Movie button.



1 Press the Movie button in still-picture capture mode.

Recording starts.

2 Press the Movie button.

Recording stops.

memo

- When recording starts using the Movie button, the number of recorded pixels is fixed to 1920×1080 and the frame rate 30 fps.
- [Movie SR] (Movie Shake Reduction) is fixed to ☑ (On).
- The recorded area of a movie becomes smaller, both horizontally and vertically, than the image shown on the display before recording.

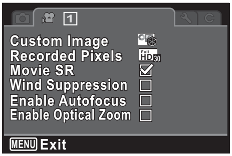
Changing the Movie Settings

Change the movie settings in the [🎥 Movie] menu.

1 Press the MENU button in movie mode.

The [🎥 Movie 1] menu appears.

2 Use the four-way controller (▲▼) to select an item and change its setting.



3 Press the MENU button after changing the setting.

The setting is saved and the camera returns to capture status.

The [Custom Image], [Recorded Pixels], [Wind Suppression] and [Enable Autofocus] settings can also be changed using the control panel.

To Set the Finishing Image Tone of a Movie (Custom Image)

You can record a movie by setting the finishing image tone.
The selectable image tones and parameters are the same as those for still pictures. For details, refer to "Setting the Finishing Image Tone (Custom Image)" (p.110).

1 Use the four-way controller (▲▼) to select [Custom Image] in the [🎥 Movie 1] menu, and press the four-way controller (▶).

The screen for selecting custom images appears.

2 Use the four-way controller (◀▶) to select a custom image, and press the four-way controller (▼).

The screen for selecting parameters appears.

3 Use the four-way controller (▲▼) to choose a parameter you want to change, and the four-way controller (◀▶) or the e-dial to change the setting.

4 Press the OK button.

To Select the Number of Recorded Pixels for Movies

In Movie mode, you can choose the number of recorded pixels and frame rate for movies.
The more pixels there are, the clearer the details and the bigger the file size. The more frames per second, the better the quality of the movie, but the file size becomes larger.

Settings	Recorded Pixels	Frame Rate	Use
Full HD 30	1920×1080	30 fps	Records images in full HD format (16:9). Movement is recorded smoothly. (Default setting)

Settings	Recorded Pixels	Frame Rate	Use
HD 60	1280×720	60 fps	Records images in HDTV format (16:9). Quick movement is recorded smoothly.
HD 30	1280×720	30 fps	Records images in HDTV format (16:9). Movement is recorded smoothly.

* The frame rate (fps) indicates the number of frames per second.

1 **Use the four-way controller (▲▼) to select [Recorded Pixels] in the [Movie 1] menu, and press the four-way controller (▶).**

A pull-down menu appears.

2 **Use the four-way controller (▲▼) to select the number of recorded pixels and the frame rate.**

3 **Press the OK button.**

The setting is saved.

To Set the Movie SR (Movie Shake Reduction) Function

In (Movie) or (Time-Lapse Movie) mode, you can correct camera shake during movie recording with the Movie SR (Movie Shake Reduction) function.

1 **Use the four-way controller (▲▼) to select [Movie SR] in the [Movie 1] menu.**

2 **Use the four-way controller (◀▶) to select ☑ or □.**

☑ Automatically corrects camera shake (default setting).

□ Does not correct camera shake.

To Suppress Wind Noises during Movie Recording (Wind Suppression)

You can reduce wind noises during movie recording.

1 **Use the four-way controller (▲▼) to select [Wind Suppression] in the [Movie 1] menu.**

2 **Use the four-way controller (◄ ►) to select ☑ or □.**

☑ Suppresses wind noises.

□ Does not suppress wind noises (default setting).

To Set Autofocus during Movie Recording (Enable Autofocus)

You can activate the autofocus system during movie recording.

1 **Use the four-way controller (▲ ▼) to select [Enable Autofocus] in the [🎥 Movie 1] menu.**

2 **Use the four-way controller (◄ ►) to switch between ☑ and □.**

☑ Activates the autofocus system during movie recording.

□ Does not activate the autofocus system (default setting).

To Set the Optical Zoom for Movie Recording (Enable Optical Zoom)

You can use the optical zoom during movie recording.

1 **Use the four-way controller (▲ ▼) to select [Enable Optical Zoom] in the [🎥 Movie 1] menu.**

2 **Use the four-way controller (◄ ►) to switch between ☑ and □.**

☑ Enables the optical zoom during movie recording.

□ Does not enable the optical zoom (default setting).

Saving the Settings (Memory)

The Memory function is for saving the current camera settings when the camera is turned off.
For some camera settings, the Memory function is always set to ☑ (On) (the settings are saved when the camera is turned off), while for others you can choose ☑ or □ (Off) (to choose whether the settings are saved or not when the camera is turned off). The items which can be set to ☑ or □ in the Memory function are shown in the table below. (Items not listed here are always saved in the selected settings when the camera is turned off.)
If you select ☑, the settings will be saved in the status they were in immediately before the camera was turned off. If you select □, the settings will be reset to the defaults when the camera is turned off. The table below also shows whether the Memory default setting for each item is ☑ or □.

Item	Description	Default Settings	Page
Flash Mode	The flash mode set with the four-way controller (◀)	☑	p.84
Drive Mode	The drive mode set with the four-way controller (▲)	☑	p.87
Focus Mode	The focus mode set with the four-way controller (▶)	☑	p.89
Zoom Position	The zoom position set with the zoom lever	□	p.60
MF Position	The manual focus position set with the four-way controller (▲▼)	☑	p.90
White Balance	The [White Balance] setting in the [📷 Rec. Mode 1] menu	☑	p.100
Sensitivity	The ISO sensitivity set with the four-way controller (▼)	☑	p.94
AE Metering	The [AE Metering] setting in the [📷 Rec. Mode 1] menu	☑	p.97
Face Detection	The [Face Detection] setting in the [📷 Rec. Mode 2] menu	☑	p.107
Digital Zoom	The [Digital Zoom] setting in the [📷 Rec. Mode 3] menu	☑	p.62
DISPLAY	The information display mode selected with the **OK** button	☑	p.22

Item	Description	Default Settings	Page
File No.	If a new SD Memory Card is inserted when ☑ (On) has been selected, file numbers are assigned sequentially.	☑	—

1 Use the four-way controller (▲▼) to select [Memory] in the [📷 Rec. Mode 3] menu, and press the four-way controller (▶).

The [Memory 1] screen appears.

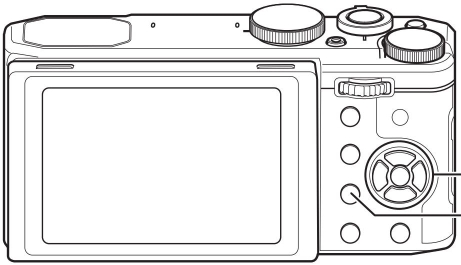
2 Use the four-way controller (▲▼) to choose an item.

3 Use the four-way controller (◀▶) to switch between ☑ and □.

To switch between the [Memory 1] screen and the [Memory 2] screen, press the four-way controller (◀▶) or turn the e-dial.

Playing Back Images

Playing Back Still Pictures



1 Press the ▶ button after taking a picture.

The camera enters playback mode and the captured image appears on the display (single-image display).

File number

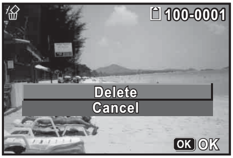


2 Press the four-way controller (◀ ▶).

The previous or next image appears.

To Delete the Displayed Image

Press the ⦿/🗑 button while the image is displayed to display the Delete screen. Press the four-way controller (▲) to select [Delete] and press the **OK** button.
Select a file format to delete for images saved in RAW+ format.

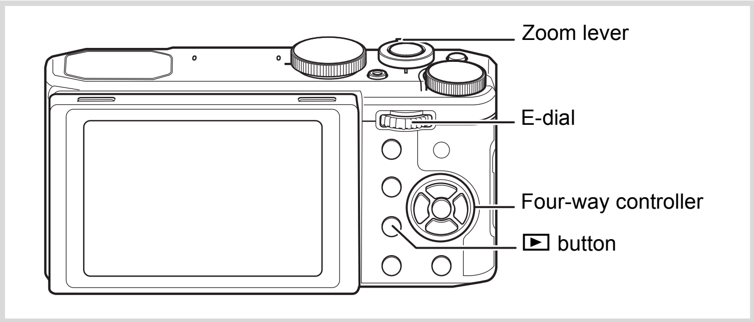


Delete JPEG	Deletes only the JPEG image.
Delete RAW	Deletes only the RAW image.
Delete RAW+JPEG	Deletes images in both file formats.

For information on other deletion procedures ☞p.133

Playing Back Movies

You can play back the movies you have taken. The sound is played back at the same time.



1 In playback mode, use the four-way controller (◄ ►) to choose the movie you want to play back.

2 Press the four-way controller (▲).

Playback starts.



Available operations during playback

Zoom lever to the right (**T**)/ E-dial to the right (Q)	Increases the volume.
Zoom lever to the left (**W**)/ E-dial to the left (⊞)	Reduces the volume.

Four-way controller (▲)	Pauses playback.
Four-way controller (▶) held down	Fast-forwards playback while the button is held down.
Four-way controller (◀) held down	Fast-reverses playback while the button is held down.

Available operations while playback is paused

Four-way controller (▲)	Resumes playback.
Four-way controller (▶)	Forwards the frame.
Four-way controller (◀)	Reverses the frame.*1

*1 Every 30 frame is the first frame for reversing frame. For example, when you reverse frame at 1 to 31, the frame reverses to the first frame and when you reverse frame at 32 to 61, the frame reverses to the 31st frame.

3 Press the four-way controller (▼).

Playback stops.

Displaying Multiple Images

Multi-Image Display

You can display 4, 9 or 25 thumbnail images at the same time. The default setting is nine-image display.

1 Turn the zoom lever to the left (W) or the e-dial to the left (⊞) in playback mode.

The multi-image display screen appears. Up to nine thumbnail images will be displayed at once (default setting).
◆ indicates that the previous or next image has been stored in another folder.



Available operations

Four-way controller (▲▼◀▶)	Moves the selection frame.

INFO button	Displays the [Multi-image Display] screen.  Use the four-way controller (◀ ▶) or the e-dial to select the display type (4, 9, or 25). (The display type cannot be selected when developing multiple RAW images.) (p.160)
⦿/🗑 button	Selects and deletes multiple images (p.133).

2 Press the OK button.

Single-image display of the selected image appears.

Folder Display/Calendar Display

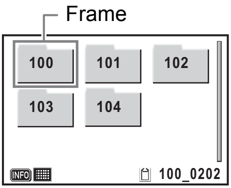
In multi-image display, turn the zoom lever to the left (**W**) or the e-dial to the left (⊞) to switch to folder display or calendar display. Press the **INFO** button to switch between folder display and calendar display.

1 In playback mode, turn the zoom lever to the left (W) or the e-dial to the left (⊞).

The screen changes to folder display or calendar display.

Folder display

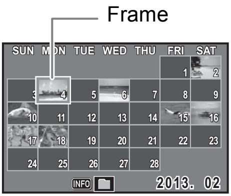
The list of folders with recorded images appears.



Four-way controller (▲▼◀▶)	Moves the frame.
Zoom lever to the right (**T**)/E-dial to the right (🔍) / **OK** button	Displays the images in the selected folder in multi-image display.
MENU button	Returns to multi-image display.
INFO button	Switches to calendar display.

Calendar display

Images are displayed by date in calendar format.
The thumbnail of the first image recorded on each date is displayed on the calendar.



Four-way controller (▲▼◀▶)	Moves the frame.
Zoom lever to the right (**T**)/E-dial to the right (🔍)	Displays the images recorded on the selected date in multi-image display.
OK button	Displays the first image recorded on the selected date in single-image display.
MENU button	Returns to multi-image display.
INFO button	Switches to folder display.

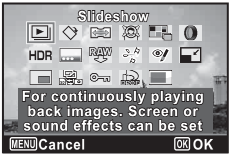
Using the Playback Functions

1 **Press the four-way controller (▼) in playback mode.**

The Playback Mode Palette appears.

2 **Use the four-way controller (▲▼◀▶) to choose an icon.**

The guide for the selected function appears below.



3 **Press the OK button.**

The selected playback function is called up.

Playback Mode Palette

Playback Mode		Description	Page
▶	Slideshow	For continuously playing back images. Screen or sound effects can be set.	p.129
◇	Image Rotation	Rotates captured images. Useful when viewing vertical images on a TV.	p.131

Playback Mode		Description	Page
Stretch Filter		Stretches or elongates a user-selected area of image (4:3 to 16:9).	p.143
Small Face Filter		Reduces the size of faces in the image, for well-proportioned portraits.	p.144
Collage		Creates a collage print page from saved image files.	p.150
Digital Filter		For modifying images with a Color filter or Soft filter.	p.146
HDR HDR Filter		Processes single image to simulate HDR effect.	p.149
Original Frame		Available to make from the kind and color of a frame. Available to enter text.	p.154
RAW Development		Converts RAW image files into JPEG image files.	p.158
Movie Edit	Save as Still Image	For saving one frame from a movie as a still picture.	p.161
	Divide Movies	For dividing a movie into two.	
	Adding title picture	For adding a title picture to your movie.	
Red-eye Edit		Attempts to edit out the red-eye effect in image. Success may vary.	p.153
Resize		Changes Recorded Pixels and Quality Level to make the file size smaller.	p.141
Cropping		For cropping images to the size you like. Saved as a new image.	p.142
Image Copy		To copy images between the built-in memory and an SD Memory Card.	p.164
Protect		Protects images from delete function. Format function still erases all.	p.135
DPOF		For the print settings. Useful when printing at a printing service.	p.166
Start-up Screen		For setting a captured image as the Start-up Screen.	p.189

Slideshow

You can play back recorded images one after another.

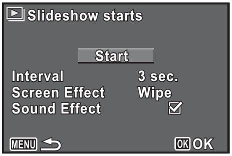
1 In playback mode, use the four-way controller (◄ ►) to choose the image to start the slideshow with.

2 Use the four-way controller (▲ ▼ ◄ ►) to select ▣ (Slideshow) from the Playback Mode Palette.

3 Press the OK button.

The slideshow setting screen appears.

4 Use the four-way controller (▲ ▼) to select [Start].



5 Press the OK button.

The slideshow starts.
Pressing the OK button during the slideshow pauses the slideshow.
To resume the slideshow, press the OK button again.

6 Press any button other than the OK button.

The slideshow stops.

To Set the Slideshow Conditions

You can set the playback interval and also a screen effect and sound effect for when one image changes to the next.

1 Use the four-way controller (▲ ▼) to select [Interval] in Step 4 on p.129.

2 Press the four-way controller (►).

A pull-down menu appears.

3 **Use the four-way controller (▲▼) to select the interval, and press the OK button.**

Choose [30sec.], [20sec.], [10sec.], [5sec.] or [3sec.].

4 **Use the four-way controller (▲▼) to select [Screen Effect], and press the four-way controller (▶).**

A pull-down menu appears.

5 **Use the four-way controller (▲▼) to choose the screen effect, and press the OK button.**

Wipe	The next image slides over the previous one from left to right.
Checker	The next image appears in small square mosaic blocks.
Fade	The current image gradually fades out and the next image fades in.
Random	Various effects are used randomly.
Off	No effect

6 **Use the four-way controller (▲▼) to select [Sound Effect].**

7 **Use the four-way controller (◀▶) to switch between ☑ (On) and □ (Off).**

Except when [Screen Effect] is set to [Off] or [Random], you can choose ☑ or □ for the sound that is played when one image changes to the next.

8 **Use the four-way controller (▲▼) to select [Start], and press the OK button.**

The slideshow starts using the selected interval and effect.

memo

- The slideshow will continue until you press any button other than the **OK** button.
- Movies will be played through to the end before the next image is played back, regardless of the interval setting. However, pressing the four-way controller (▶) while playing back a movie skips to the next image.
- When [Random] is selected for the screen effect, the interval is fixed and the sound effect is set to □.
- Panorama images will be scrolled for display from left to right in 4 seconds before the next picture is played back, regardless of the interval or screen effect setting.

Rotating the Image

1 Press the ▶ button after taking a picture.

The image appears on the display.

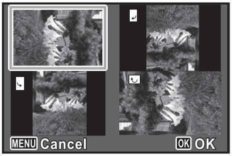
2 Use the four-way controller (▲▼◀▶) to select ◇ (Image Rotation) from the Playback Mode Palette.

3 Press the OK button.

The rotation selection screen (0°, Right 90°, Left 90°, or 180°) appears.

4 Use the four-way controller (▲▼◀▶) to choose the rotation direction, and press the OK button.

The information of image rotation is saved and displayed on single-image display.



memo

- Images taken at ▮▮▮ (Digital Panorama) mode and movies cannot be rotated.
- Protected images can be rotated, but they cannot be saved in a rotated state.
- By setting [9. Save Rotation Info] (p.67) in the [C Custom 2] menu to [On], information of the image rotation in shooting can be saved. When you set [10. Auto Image Rotation] (p.67) to [On], images automatically rotate in playback.

Zoom Playback

You can magnify an image up to ten times.

1 In playback mode, use the four-way controller (◀▶) to choose the image you want to magnify.

2 Turn the e-dial to the right (🔍) or turn the zoom lever to the right (T).

The image is magnified (×1.1 to ×10).

Continuing to turn the e-dial to the right (🔍) changes the magnification continuously.

Holding the zoom lever turned to the right (**T**) also changes the magnification continuously.

You can use the guide mark "+" that appears at the bottom left of the screen to check which portion of the image is magnified.



Guide

Available operations while an image is magnified

Four-way controller (▲▼◀▶)	Moves the position to be magnified.
E-dial to the right (🔍) / Zoom lever to the right (**T**)	Makes the image larger (max. ×10).
E-dial to the left (⊞) / Zoom lever to the left (**W**)	Makes the image smaller (min. ×1.1).
⊙/🗑 button	Displays the center of the image.

3 Press the OK or MENU button.

The image returns to single-image display.

memo

Movies cannot be magnified.

Deleting Images

You can delete images that you do not want to keep.

Deleting a Single Image

You can delete a single image.

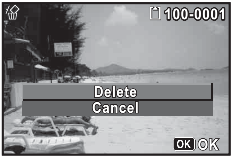
Caution: Protected images cannot be deleted (p.135).

1 In playback mode, use the four-way controller (◄►) to choose the image you want to delete.

2 Press the ◉/🗑 button.

A confirmation screen appears.

3 Press the four-way controller (▲) to select [Delete].



4 Press the OK button.

The image is deleted.

Deleting Selected Images

You can delete several images selected from the multi-image display at once.

Caution: Protected images cannot be deleted (p.135).

1 In playback mode, turn the e-dial to the left (⊞).

Multi-image display appears.

2 Press the ⊙/🗑 button.

A frame appears on the image.



3 Use the four-way controller (▲▼◀▶) to choose the image that you want to delete, and press the OK button.

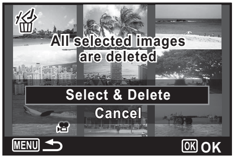


☑ appears on the selected image.
Choose all images to be deleted in the same manner.
Turn the e-dial to the right (🔍) to display the selected image on the single-image screen and check whether you want to delete it or not. (Turning the e-dial to the left resumes the multi-image display.) However, protected images cannot be selected.

4 Press the ⊙/🗑 button.

A confirmation dialog appears.

5 Press the four-way controller (▲) to select [Select & Delete].



6 Press the OK button.

The selected images are deleted.

Deleting All Images

You can delete all the images at once.

> **Caution** Protected images cannot be deleted (p.135).

1 Use the four-way controller (▲▼) to select [Delete All] in the [🔧 Setting 3] menu, and press the four-way controller (▶).

The [Delete All] screen appears.

2 Press the four-way controller (▲) to select [Delete All].

3 Press the OK button.

All the images are deleted.

Protecting Images from Deletion (Protect)

You can protect stored images from being accidentally deleted.

1 In playback mode, use the four-way controller (◀▶) to choose the image you want to protect.

2 Use the four-way controller (▲▼◀▶) to select O-π (Protect) from the Playback Mode Palette.

3 Press the OK button.

The screen for selecting [Single Image] or [All Images] appears.

4 Use the four-way controller (▲▼) to select [Single Image].



5 Press the OK button.

The message [Protects this image] appears.

To protect another image, use the four-way controller (◄►) to select another image.

6 Use the four-way controller (▲▼) to select [Protect].



7 Press the OK button.

The selected image is protected and the screen shown in Step 4 reappears.
To protect other images, repeat Steps 4 to 7. Select [Cancel] to exit the Protect setting.

memo

- To cancel the protection of the image, select [Unprotect] in Step 6.
- 🔑 appears on the protected images during playback.
- The maximum number of images you can protect in succession with [Single Image] is 99.

To Protect All Images

1 Select [All Images] in Step 4 on p.135.



2 Press the OK button.

3 Use the four-way controller (▲▼) to select [Protect].



4 Press the OK button.

All the images are protected and the screen shown in Step 1 reappears.

5 Use the four-way controller (▲▼) to select [Cancel], and press the OK button.

The Playback Mode Palette reappears.

Caution: Protected images will be deleted when the SD Memory Card or the built-in memory is formatted (p.171).

memo: To cancel the protection of all your images, select [Unprotect] in Step 3.

Connecting the Camera to AV Equipment

By connecting the camera to a TV or other equipment with a video input terminal or HDMI terminal, you can play back images.

memo

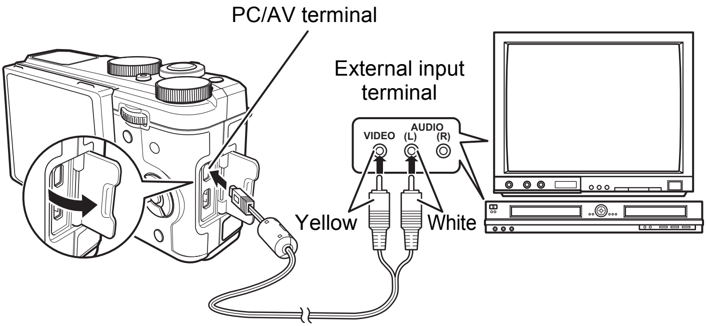
- If you intend to use the camera continuously for a long period, use of the AC adapter kit K-AC130 (optional) is recommended (p.42).
- For AV equipment with multiple video input terminals, check the operating manual of the AV equipment, and select the video input terminal to which the camera is connected.
- You cannot output a composite and HDMI video signal at the same time.
- You cannot adjust the volume on the camera when connected to AV equipment. Adjust the volume on the AV equipment.

Connecting the Camera to a Video Input Terminal

Use the optional AV cable (I-AVC7) to connect the camera to equipment with a video input terminal.

1 Turn the AV equipment and camera off.

2 Open the terminal cover, face the arrow mark on the AV cable towards the ▲ mark on the camera, and connect the cable to the PC/AV terminal.



3 Connect the other ends of the AV cable to the video and audio input terminals of the AV equipment.

When using stereo sound equipment, insert the sound connector into the L (white) terminal.

4 Turn the AV equipment on.

When the equipment that the camera is connected to and the equipment that plays back images are different, turn both on.
When viewing images on AV equipment with multiple video input terminals (such as a TV), refer to the operation manual of the equipment and select the video input terminal to which the camera is connected.

5 Turn the camera on.

memo

- The video output format differs depending on the region. When you set [Select Time] in the World Time setting (p.174) to ✈ (Destination), the video output setting changes to the video output format for that city.
- Depending on the country or region, images and sounds may fail to be played back if the video output format is set differently from the one in use there. If this happens, change the video output format setting (p.183).
- The camera display turns off and the volume cannot be adjusted by turning the zoom lever while the camera is connected to AV equipment.

Caution

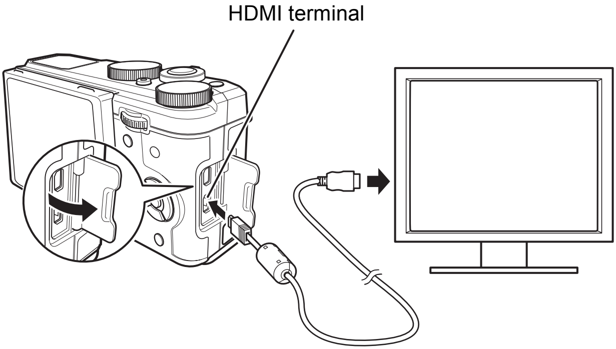
When using the video output, images/movies are output at normal resolution regardless of the resolution supported by the AV device. To output HD video, use the HDMI output (p.140) or transfer to and play back on a computer (p.196).

Connecting the Camera to an HDMI Terminal

Use a commercially available HDMI cable to connect the camera to equipment with an HDMI terminal.

1 Turn the AV equipment and camera off.

2 Open the terminal cover and connect the HDMI cable to the HDMI terminal.



3 Connect the other end of the HDMI cable to the HDMI terminal of the AV equipment.

4 Turn the AV equipment and camera on.

The camera information is displayed on the screen of the connected AV equipment.

memo

- The camera has a Type D (Micro) HDMI terminal. Use a commercially available HDMI cable that matches your AV equipment.
- Nothing is displayed on the camera display during HDMI output.
- The HDMI output format is set to [Auto] by default. With this setting, the image is displayed in the largest resolution that the connected AV equipment or camera supports. You can change setting according to the output format of your AV equipment or camera (p.184).
- When the HDMI output format is set to [1080i] or [720p], the image is displayed with a 16:9 aspect ratio on the connected AV equipment or camera. The display may appear with a screen design that differs from that displayed on this camera.

Changing the Image Size

Changing the Image Size (Resize)

By changing the recorded pixels and quality level of a selected image, you can make the file size smaller than the original. You can use this function to continue taking pictures when the SD Memory Card or the built-in memory is full, by making the images smaller and overwriting the original images to make more space available.

Caution

- Images taken in ▮■▮ (Digital Panorama) mode and movies cannot be resized.
- You cannot select a larger number of recorded pixels and/or a higher quality level than those of the original image.

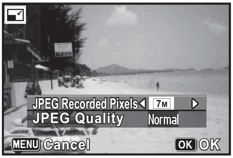
1 In playback mode, use the four-way controller (◀ ▶) to choose the image you want to resize.

2 Use the four-way controller (▲ ▼ ◀ ▶) to select ⧉ (Resize) from the Playback Mode Palette.

3 Press the OK button.

The screen for choosing the number of recorded pixels appears.

4 Select [JPEG Recorded Pixels] or [JPEG Quality].



Use the four-way controller (◀ ▶) to choose the recorded pixels and quality level.
Use the four-way controller (▲ ▼) to switch between [JPEG Recorded Pixels] and [JPEG Quality].

5 Press the OK button.

The save confirmation screen appears.
If the selected image is protected, the processed image is saved as a new image and the confirmation dialog does not appear.

6 Use the four-way controller (▲ ▼) to select [Save as], and press the OK button.

The resized image is saved.

Cropping Images

You can delete the unwanted part of a picture and save the cropped image as a new image.

> **Caution** Images taken with the recorded pixels of 3M/2M 16:9/2M 3:2/2M 1:1 or in (Digital Panorama) mode, and movies cannot be cropped.

1 In playback mode, use the four-way controller (◀ ▶) to choose the image you want to crop.

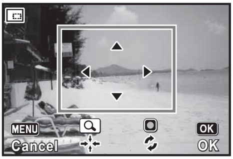
2 Use the four-way controller (▲ ▼ ◀ ▶) to select (Cropping) from the Playback Mode Palette.

3 Press the OK button.

The cropping screen appears.
The largest size of cropped image is shown with a green frame on the screen. The cropped image cannot be larger than this cropping frame size.

4 Choose the cropping area.

Change the size and/or position of the cropping frame by the following operations.



E-dial	Changes the size of the cropping frame.
Four-way controller (▲ ▼ ◀ ▶)	Moves the cropping frame up, down, left and right.
⦿/🗑 button	Rotates the cropping frame. • The button is displayed only when the cropping frame can be rotated.

5 Press the OK button.

The cropped image is saved with a new file name.
The number of recorded pixels is selected automatically according to the size of the cropped image.

Stretching a User-Selected Area of an Image (Stretch Filter)

You can stretch a user-selected area of a 4:3 image and store it as a 16:9 image.

1 In playback mode, use the four-way controller (◄►) to choose the image you want to edit.

2 Use the four-way controller (▲▼◄►) to select ⟺ (Stretch Filter) from the Playback Mode Palette.

3 Press the OK button.

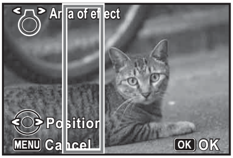
The message [Specify the position and area of effect for stretch] appears and the adjustment screen is displayed.

4 Use the four-way controller (◄►) to move the position for stretching.



Four-way controller (◄)	Moves the position for stretching left.
Four-way controller (►)	Moves the position for stretching right.

5 Turn the zoom lever left or right to adjust the area of effect for stretching.

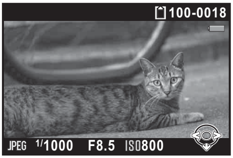


Zoom lever to the left (**W**)	Makes the area of effect narrower.
Zoom lever to the right (**T**)	Makes the area of effect wider.

6 Press the OK button.

The save confirmation screen appears.

7 **Use the four-way controller (▲▼) to select [Save as], and press the OK button.**



The stretched image is saved.
The number of recorded pixels of a new image becomes 9M 16:9 for an image taken with 12M, 5M 16:9 for an image taken with 7M, 3M 16:9 for an image taken with 5M, or 2M 16:9 for an image taken with a lower number of recorded pixels.

Processing Images to Make a Face Look Smaller (Small Face Filter)

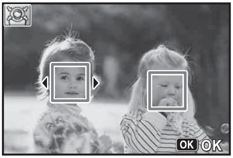
Images are processed to reduce the size of a person's face detected with the Face Detection function (p.107) when taking pictures so that the face looks smaller.

1 **In playback mode, use the four-way controller (◄►) to choose the image you want to edit.**

2 **Use the four-way controller (▲▼◄►) to select [Small Face Filter icon] (Small Face Filter) from the Playback Mode Palette.**

3 **Press the OK button.**
Face detection frames appear on the faces that can be processed.
Proceed to Step 6 when there is only one detection frame.

4 **Use the four-way controller (▲▼◄►) to select a face to be processed.**



A green frame indicates the face that is to be processed.

5 **Press the OK button.**

4 Editing and Printing Images

6 Use the four-way controller (◄►) to change the reduction ratio.



(left)	Approx. 5 %
(middle)	Approx. 7 %
(right)	Approx. 10 %

7 Press the OK button.

The save confirmation screen appears.
If the selected image is protected, the processed image is saved as a new image and the confirmation dialog does not appear.

8 Use the four-way controller (▲▼) to select [Save as], and press the OK button.

The camera returns to playback mode and the processed image is displayed.

Caution

You may not be able to process images in the following situations:
- When the size of face taken in relation to an image is too large or too small
- When a face is not in the center of an image

Processing Images with Digital Filters

You can edit captured images using digital filters.
The following filters are available.

Filter name	Effect
B&W	Processes the image into one that has the look of a black and white photograph.
Sepia	Processes the image into one that has the look of a sepia photograph.
Toy Camera	Processes the image that looks as though it was shot with a toy camera. You can choose the effect level from among Low, Medium, and High.
Retro	Processes the image into one that has the look of an old photo. You can choose the color from among Original, Amber, and Blue.
Color	Processes the image using the selected color filter. You can choose from six filters: red, pink, purple, blue, green, and yellow.
Extract Color	Extracts only a specific color and processes the rest of the image into black and white. You can choose from three filters: red, green, and blue.
Color Emphasis	There are four filters: Blue, Green, Pink, and Red.
High Contrast	Adjusts the contrast of the captured images. You can choose the contrast level from among Low, Medium, and High.
Starburst	Emphasizes a twinkling atmosphere by adding highlight spots to the shining areas in a night scene or on the surface of water. You can choose the shape of spots from among Cross, Heart, Star, Musical Note, and Snow.
Soft	Processes the image into one that appears soft overall.
Fish-eye	Creates an image that looks as though it was shot with a fish-eye lens. You can choose the effect level from among Low, Medium, and High.
Brightness	Adjusts the brightness of the image.
Miniature	Blurs part of the image to create a fake miniature scene. You can choose the area(s) to be blurred from among Top, Center, and Bottom.
Slim	Changes the horizontal-to-vertical ratio of a subject.
Invert Color	Reverses the image from positive to negative, or vice versa.

Caution

Movies and images taken at ▮■▮ (Digital Panorama) mode, or with another camera cannot be processed using the Digital Filter function.

To Apply a Filter

1 **Select an image for applying the digital filter in playback mode, and press the four-way controller (▼).**

The Playback Mode Palette appears.

2 **Use the four-way controller (▲▼◄►) to select (Digital Filter), and press the OK button.**

When applying a filter to the selected image for the first time

The screen to select a filter in Step 4 appears. Skip Step 3 and proceed to Step 4.

When applying a filter to an image to which a filter has already been applied

Proceed to Step 3.

3 **Use the four-way controller (▲▼) to select [Apply digital filter], and press the OK button.**

The screen to select a filter appears.



4 **Use the four-way controller (▲▼◄►) to select a filter.**

After selecting a filter, you can check the effect on the screen.

For a filter for which you can select/adjust parameters, the available parameters are displayed in the lower part of the filter.

Proceed to Step 6 if you do not need to change the parameters.



5 **Use the e-dial to adjust the value.**



Color Filter

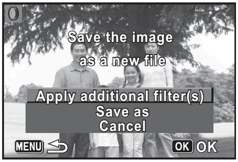


Slim Filter

6 Press the OK button.

The save confirmation screen appears.

7 Use the four-way controller (▲▼) to select [Apply additional filter(s)] or [Save as], and press the OK button.



Select [Apply additional filter(s)] when you want to apply additional filters to the same image. The screen that was displayed in Step 4 appears again.

If [Save as] was selected, the filter-processed image is saved as a new image.

memo: Up to 20 filters can be combined to the same image.

To Recreate Filter Effects

Retrieves the setting of an image with filter effects and apply the same filter effects to other images.

1 Select a filter-processed image in playback mode.

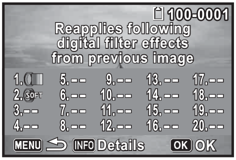
2 Select (Digital Filter) from the Playback Mode Palette, and press the OK button.

3 Use the four-way controller (▲▼) to select [Recreate filter effects], and press the OK button.



The filter effects used for the selected image appear.

4 To check the parameter details, press the INFO button and select the filter to be checked with the four-way controller (▲▼◄►).



You can check the filter parameters.

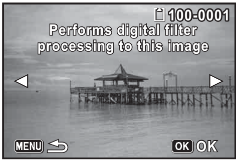
4 Editing and Printing Images

After checking, press the **INFO** button to return to the previous screen.

5 **Press the OK button.**

The image selection screen appears.

6 **Use the four-way controller (◄ ►) to select an image for applying the same filter effects, and press the OK button.**



You can only select an image that has not been processed with a filter.
The save confirmation screen appears.

7 **Press the OK button.**

The filter-processed image is saved as a new image.

To Search for the Original Image

Searches for and displays the original image prior to digital filter application.

1 **Select [Find original image] in Step 3 on p.148, and press the OK button.**

The original image prior to digital filter application is retrieved.

memo: If the original image is no longer stored on the SD Memory Card, the message [Original image, prior to digital filter application, is not found] appears.

Using the HDR Filter

Adjusts parts of the image that are too bright or too dark and processes images to simulate an HDR effect.

1 **In playback mode, use the four-way controller (◄ ►) to choose the image you want to edit.**

2 **Use the four-way controller (▲▼◄►) to select HDR (HDR Filter) from the Playback Mode Palette.**

3 **Press the OK button.**

The preview image of the result of the filter effect appears.

4 **Press the OK button.**

The save confirmation screen appears.
If the selected image is protected, the processed image is saved as a new image and the confirmation does not appear.

5 **Use the four-way controller (▲▼) to select [Save as], and press the OK button.**

The image processed with the filter is saved.

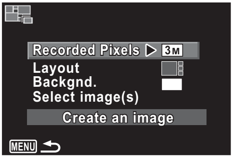
Creating a Collage Image

Make a collage image by placing captured images on a selected pattern.

1 **Use the four-way controller (▲▼◄►) to select (Collage) from the Playback Mode Palette.**

2 **Press the OK button.**

The item selection screen appears.



To Select the Number of Recorded Pixels

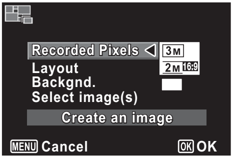
3 **Use the four-way controller (▲▼) to choose [Recorded Pixels].**

4 **Press the OK button or the four-way controller (►).**

A pull-down menu appears.

5 Use the four-way controller (▲▼) to choose the recorded pixels.

You can choose 3M or 2M 16:9.



6 Press the MENU button.

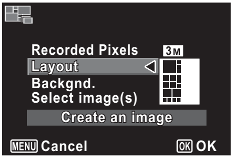
The setting is saved and the item selection screen reappears.

To Select the Layout Pattern

7 Use the four-way controller (▲▼) to choose [Layout].

8 Press the OK button or the four-way controller (▶).

A pull-down menu appears.



9 Use the four-way controller (▲▼) to choose the pattern of layout.

You can choose from 3 patterns of layout (/ /).

10 Press the MENU button.

The setting is saved and the item selection screen reappears.

To Select the Background

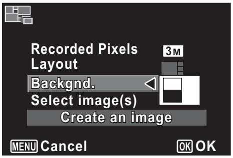
11 Use the four-way controller (▲▼) to choose [Backgnd.].

12 Press the OK button or the four-way controller (▶).

A pull-down menu appears.

13 Use the four-way controller (▲▼) to choose the background.

You can choose the white background or the black background.



14 Press the MENU button.

The setting is saved and the item selection screen reappears.

To Lay Out the Image

Caution

- Only images recorded with 3M or higher in 4:3 or with 2M or higher in 16:9 can be selected. You cannot select any image of lower sizes. Movies and images taken with other cameras do not appear as selectable items.
- If you select an image with a 16:9 aspect ratio, the black areas appear above and below the image.

15 Use the four-way controller (▲▼) to choose [Select image(s)].

16 Press the OK button or the four-way controller (▶).

The images to be selected appear.

17 Use the four-way controller (◀▶) to choose the image to be placed, and press the OK button.

The selected image is placed in the highlighted area in the guide. The guide appears on the top left of the display.



18 Repeat Step 17 to lay out the rest images.

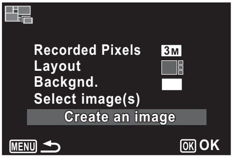
19 Press the MENU button.

The camera returns to the item selection screen.

4 Editing and Printing Images

To Save the Edited Image

20 **Use the four-way controller (▲ ▼) to choose [Create an image].**



21 **Press the OK button.**

A confirmation dialog for saving the image appears.

22 **Use the four-way controller (▲) to select [Save].**

23 **Press the OK button.**

The edited image is saved.

memo: The quality level of the image is fixed at “Fine”.

Compensating for a Red-eye Effect

You can correct images where the flash has caused the subject to appear with red eyes.

Caution: The Red-eye Edit function can only be used with still pictures taken with this camera. The red-eye edit function cannot be used on images taken at (Digital Panorama) mode, movies, images taken with other cameras and images where red eyes cannot be detected on the camera.

1 **In playback mode, use the four-way controller (◄ ►) to choose the image you want to correct.**

2 **Use the four-way controller (▲ ▼ ◄ ►) to select (Red-eye Edit) from the Playback Mode Palette.**

3 **Press the OK button.**

The save confirmation screen appears.

If the selected image is protected, the processed image is saved as a new image and the confirmation dialog does not appear.

4 Use the four-way controller (▲▼) to select [Save as], and press the OK button.

The processed image is saved.

Overlaying Your Original Frame on Still Pictures

You can overlay your original frame (decorative frame) on still pictures. You can select the type and color of an original frame and its position.Text can also be entered.

Frame

Type of original frame	Blur/Edge Composite
Frame Type	(All sides)/ (Upper and lower sides)/ (Right and left sides)/ (Upper side)/ (Lower side)/ (Left side)/ (Right side)
Color	White/Gray/Black/Pink/Pumpkin/Dark red/Dark green

Text Stamp

Available characters	A – Z, a – z, 0 – 9, Symbols, Space
Display Position	(Upper-left)/ (Upper-center)/ (Upper-right)/ (Lower-left)/ (Lower-center)/ (Lower-right)
Color	White/Gray/Black/Pink/Pumpkin/Dark red/Dark green

Caution

The Original Frame function cannot be used on images taken in (Digital Panorama) mode, images taken with the recorded pixels smaller than 5M/3M 16:9 or movies. An error message appears in Step 3.

1 Enter playback mode and use the four-way controller (◄►) to choose the image to which you want to add a frame.

2 Use the four-way controller (▲▼◄►) to select (Original Frame) from the Playback Mode Palette.

3 Press the OK button.

The original frame type selecting screen appears.

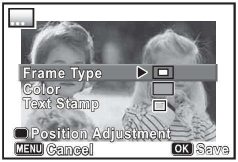
4 Editing and Printing Images

4 Use the four-way controller (▲▼) to select an original frame type, and press the OK button.

The frame setting screen appears.



5 Use the four-way controller (▲▼) to select [Frame Type], and press the four-way controller (▶).



6 Use the four-way controller (▲▼) to select a frame type, and press the four-way controller (◀).

7 Set [Color] in the same way as in Steps 5 and 6.

8 Adjust the position of the frame and image.

For details, refer to “To Adjust the Position of the Frame and an Image” (p.156).

9 Use the four-way controller (▲▼) to select [Text Stamp], and press the four-way controller (▶).

The Text Stamp screen appears.
When you do not want to enter characters, proceed to Step 11.

10 Set up the text stamp.

For details, refer to “To Set Up Text Stamp” (p.156).



11 Press the OK button.

The save confirmation screen appears.
If the selected image is protected, the processed image is saved as a new image and the confirmation dialog does not appear.

12 Use the four-way controller (▲▼) to select [Save as], and press the OK button.

The edited image is saved.

To Adjust the Position of the Frame and an Image

1 Press the ⊙/🗑 button.

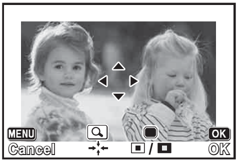
The frame position adjustment screen appears.



Four-way controller (▲▼◀▶)	Press to adjust the position of the frame.
Zoom lever to the right (**T**)	Press to make the frame larger.
Zoom lever to the left (**W**)	Press to make the frame smaller.

2 Press the ⊙/🗑 button.

The image position adjustment screen appears.



Four-way controller (▲▼◀▶)	Press to adjust the position of the image.
Zoom lever to the right (**T**)	Press to make the image larger.
Zoom lever to the left (**W**)	Press to make the image smaller.

3 Press the OK button.

The screen returns to the previous screen.

To Set Up Text Stamp

1 Use the four-way controller (▲▼◀▶) to select a character, and press the OK button.

The selected character is input.
Up to 52 characters can be input.



AV/AE-L button	Press to switch between upper and lower case.
Zoom lever to the right (**T**)	Press to move the cursor to the right.
Zoom lever to the left (**W**)	Press to move the cursor to the left.
⦿/🗑 button	Press to delete the character.

2 **Use the four-way controller (▲▼◀▶) to select [Finish], and press the OK button.**

3 **Use the four-way controller (▲▼) to select [Display Position], and press the four-way controller (▶).**



4 **Use the four-way controller (▲▼) to select the display position, and press the OK button.**

5 **Use the four-way controller (▲▼) to select [Color], and press the four-way controller (▶).**

6 **Use the four-way controller (▲▼) to select the color, and press the OK button twice.**

Proceed to Step 11 on p.155.

To View the Preview Screen

1 **Press the ⦿/🗑 button.**

The preview screen appears.



2 Press the MENU button.

The screen returns to the previous screen.

3 Press the OK button.

Proceed to Step 11 on p.155.

Developing RAW Images

You can convert captured RAW images into JPEG images, and save them as a new file.

> **Caution**
> Only RAW images captured with this camera can be edited. RAW images and JPEG images captured with other cameras cannot be edited on this camera.

To Develop One RAW Image

1 Select a RAW image in playback mode, and press the four-way controller (▼).

The Playback Mode Palette appears.

2 Use the four-way controller (▲▼◀▶) to select RAW (RAW Development), and press the OK button.

The screen to select a development method is displayed.

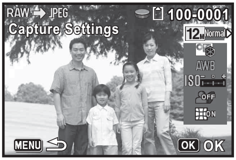
3 Use the four-way controller (▲▼) to select [Develop single image], and press the OK button.



The parameters recorded in the image file appear.
Proceed to Step 6 if you do not need to change the parameters.

4 Use the four-way controller (▲▼) to choose a parameter you want to change.

You can select a different image by turning the e-dial.



The following parameters can be changed.

Parameter	Value	Page
Aspect Ratio	4:3/16:9/3:2/1:1	p.98
JPEG Recorded Pixels	JPEG recorded pixels corresponding to the aspect ratio	p.99
JPEG Quality	Fine/Normal	p.100
Custom Image	Bright/Natural/Vibrant/Reversal Film/ Monochrome	p.110
White Balance	AWB/☼/⌂/☁/D/N/W/L/ ☼/⚡WB/⊡	p.100
Sensitivity	-1.0 to +1.0	—
Shadow Correction	On/Off	p.104
Distortion Corr.	On/Off	p.106

5 Use the four-way controller (◀▶) to change the value.

Press the four-way controller (▶) to display the setting screen for White Balance and Custom Image.

6 Press the OK button.

The save confirmation screen appears.

7 Use the four-way controller (▲▼) to select [Save as], and press the OK button.

The RAW image is developed and saved as a new image.

8 Use the four-way controller (▲▼) to select [Continue] or [Exit], and press the OK button.

Select [Continue] to edit other images. The screen for selecting the parameter in Step 4 appears again.

To Develop Multiple RAW Images

You can develop multiple RAW images with the same settings.

1 Select [Develop multiple images] in Step 3 on p.158, and press the OK button.

The multi-image display screen appears.
Refer to p.125 for details on operations in the multi-image display screen.

2 Use the four-way controller (▲▼◄►) to select the RAW images to be developed, and press the OK button.

3 Press the AV/AE-L button.

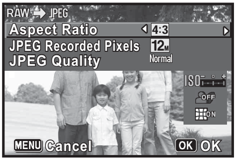
The development confirmation screen appears.

4 Use the four-way controller (▲▼) to select [Develop images as shot] or [Develop images with modified settings], and press the OK button.



To change parameters, select [Develop images with modified settings].

5 Use the four-way controller (▲▼◄►) to set [Aspect Ratio], [JPEG Recorded Pixels] and [JPEG Quality].



When [Develop images with modified settings] is selected in Step 4, refer to p.159 to change other parameters.

6 Press the OK button.

The save confirmation screen appears.

7 Use the four-way controller (▲▼) to select [Save as], and press the OK button.

The selected RAW images are developed and saved as new images.

4

Editing and Printing Images

Editing Movies

You can extract a frame from the recorded movie to save as a still picture, divide a movie into two, or add a title picture to a movie.

1 In playback mode, use the four-way controller (◀ ▶) to choose the movie you want to edit.

2 Use the four-way controller (▲ ▼ ◀ ▶) to select ✂ (Movie Edit) from the Playback Mode Palette.

3 Press the OK button.

The movie editing selection screen appears. Subsequent steps vary depending on your selection.



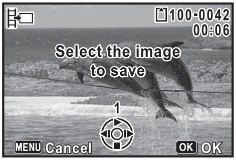
To Save a Frame from a Movie as a Still Picture

4 Select [Save as Still Image] on the movie editing selection screen.

5 Press the OK button.

The screen for selecting a frame to be saved as a still picture appears.

6 Use the four-way controller (▲ ▼ ◀ ▶) to choose the frame you want to save.



- ▲ Plays or pauses the movie.
- ▼ Stops the movie and returns to the first frame.
- ◀ Reverses the movie frame by frame*1.
- ▶ Forwards the movie frame by frame.

*1 Every 30 frame is the first frame for reversing frame. For example, when you reverse frame at 1 to 31, the frame reverses to the first frame and when you reverse frame at 32 to 61, the frame reverses to the 31st frame.

7 Press the OK button.

The selected frame is saved as a still picture.

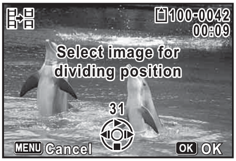
To Divide a Movie

4 Select [Divide Movies] on the movie editing selection screen.

5 Press the OK button.

The screen for specifying the dividing position appears.

6 Use the four-way controller (▲▼◄►) to specify the dividing position.

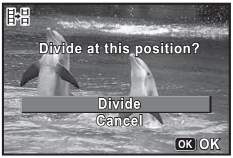


- ▲ Plays or pauses the movie.
- ▼ Stops the movie and returns to the first frame.
- ◄ Reverses the movie frame by frame.
- ► Forwards the movie frame by frame.

7 Press the OK button.

A confirmation dialog appears.

8 Use the four-way controller (▲▼) to select [Divide].



9 Press the OK button.

The movie is divided at the specified position, each segment is saved as a new file, and the original movie is deleted.

Caution

Protected movies cannot be divided.

memo

- Only a movie of more than 2 seconds (31 frames) can be divided.
- For dividing, every 30 frames (31st, 61st, 91st. frames) can be selected.

4 Editing and Printing Images

To Add a Title Picture to a Movie

4 **Select [Adding title picture] on the movie editing selection screen.**

5 **Press the OK button.**

The screen for selecting a title picture appears.

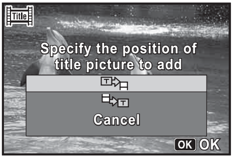
6 **Use the four-way controller (◄ ►) to choose the image for the title picture.**

Only images available for the title picture are displayed.

7 **Press the OK button.**

The screen for confirming the position of the title picture appears.

8 **Use the four-way controller (▲ ▼) to select the position.**



	Adds the title picture to the beginning of the movie.
	Adds the title picture to the end of the movie.

9 **Press the OK button.**

The selected picture is saved as the title picture.



- Protected movies cannot be added a title picture.
- If a movie is more than 26 minutes long after adding title pictures, you cannot add any more title pictures to it.

- When a title picture is added to the beginning of a movie: When the movie is played back, the title picture is played back for three seconds, and then the movie is played back. The still picture set as title picture is used as the thumbnail of the movie.
  When a title picture is added to the end of a movie: When the movie is played back, the movie is played back first, then the title picture is played back for three seconds. The thumbnail of the movie is not changed by adding a title picture to the end of the movie.
- A still picture is automatically resized according to the size of the movie.
- Only a still picture with the same aspect ratio as the movie can be set as a title picture.

Copying Images

You can copy images from the built-in memory to the SD Memory Card and vice versa. This function can be selected only when an SD Memory Card has been inserted in the camera.

Caution: Make sure that the camera is turned off before inserting or removing the SD Memory Card.

1 Use the four-way controller (▲▼◀▶) to select (Image Copy) from the Playback Mode Palette.

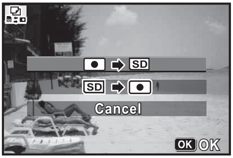
2 Press the OK button.

The copying method selection screen appears.
Subsequent steps vary depending on your selection.

To Copy Files from the Built-in Memory to the SD Memory Card

All the images in the built-in memory are copied to the SD Memory Card at once. Before copying the images, make sure that there is enough space on the SD Memory Card.

3 Use the four-way controller (▲▼) to select [● ➡ SD].



4 Press the OK button.

All the images are copied to the SD Memory Card.

To Copy Files from the SD Memory Card to the Built-in Memory

Selected images from the SD Memory Card are copied to the built-in memory one by one.

3 Use the four-way controller (▲▼) to select [SD ➡ ●].

4 Press the OK button.

5 Use the four-way controller (◄►) to select the image you want to copy.



6 Press the OK button.

The selected image is copied to the built-in memory.
To copy other images, repeat Steps 3 to 6. Select [Cancel] to exit the copy operation.

memo: When a file is copied from the SD Memory Card to the built-in memory, it is assigned a new file name.

Setting the Printing Service (DPOF)

DPOF (Digital Print Order Format) is the format for storing print order data on still pictures captured with a digital camera. Once the print order data has been stored, the pictures can be printed according to the DPOF settings by using a DPOF-compatible printer or at a photo processing lab.

About printing
The following options are available for printing images taken with this camera.

1. **Use a printing service.**
2. **Use your printer with an SD Memory Card slot to print directly from the SD Memory Card.**
3. **Use your computer's software to print images.**

Caution

- The DPOF settings can be applied only to still pictures. Movies cannot be processed with the DPOF settings.
- If the picture already has the date and/or time imprinted on it (p.112), do not set [Date] to ☑ (On) in DPOF setting. If you select ☑, the imprinted date and/or time may overlap.

Printing a Single Image

Set the following items for each image.

Copies	Choose the number of copies up to 99.
Date	Specify whether to imprint the date on the pictures.

1 Use the four-way controller (▲▼◄►) to select (DPOF) from the Playback Mode Palette.

2 Press the OK button.

The DPOF setting method selection screen appears.

3 Use the four-way controller (▲▼) to select [Single Image].



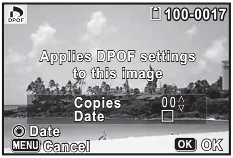
4 Press the OK button.

The message [Applies DPOF settings to this image] appears.

5 Use the four-way controller (◄►) to select an image.

If DPOF settings have already been made for the selected image, the previous number of copies and date setting ☑ (On) or □ (Off) is displayed.

6 Use the four-way controller (▲▼) to choose the number of copies.

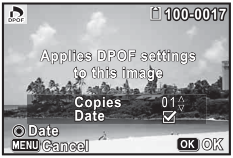


7 Press the ⦿/🗑 button to switch between ☑ and □ for [Date].

☑ Imprints the date.

□ Does not imprint the date.

To continue DPOF settings to other image(s), repeat Steps 5 to 7.



8 Press the OK button.

The settings are saved and the screen shown in Step 3 is resumed.

Caution: Depending on the printer or printing equipment at the photo processing lab, the date may not be imprinted on the pictures even if ☑ is selected for [Date] in DPOF setting.

memo: To cancel DPOF settings, set the number of copies to [00] in Step 6 and press the OK button.

Printing All Images

DPOF settings are applied to all the images stored in the camera.

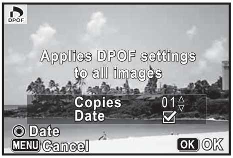
1 Select [All Images] in Step 3 on p.167.

2 Press the OK button.

The message [Applies DPOF settings to all images] appears.

3 Choose the number of copies and switch between ☑ and □ for [Date].

Refer to Steps 6 and 7 in “Printing a Single Image” (p.167) for details on how to make the settings.



4 Press the OK button.

The settings specified for all the images are saved and the DPOF setting method selection screen is resumed.

Caution

- The number of copies specified in the [All Images] setting applies to all the images. Before printing, check that the number is correct.
- DPOF settings specified for single images are canceled when settings are made with [All Images].

4 Editing and Printing Images

Camera Settings

Perform general settings related to the camera in the [🔧 Setting] menus.

memo For details on how to use the menus, refer to “Using the Menus” (p.33).

Setting Menu Items

Perform the following settings in the [🔧 Setting 1-4] menus.
Press the **MENU** button in capture/playback mode and use the four-way controller (◀ ▶) or e-dial to display the [🔧 Setting 1-4] menus.

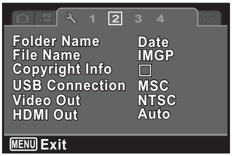
Menu	Item	Function	Page
🔧1	Save as **USER**	Saves the current camera settings in USER on the mode dial.	p.76
	Sound	Switches the sound on/off and changes its volume and type.	p.172
	Date Adjustment	Sets the date format and time.	p.173
	World Time	Sets the display of the local date and time of the specified city so they can be shown on the display in addition to the present location.	p.174
	Text Size	Sets the text size of menus.	p.176
	Language/言語	Changes the language in which menus and messages appear.	p.177
🔧2	Folder Name	Sets the naming system for folders of storing images.	p.177
	File Name	Sets the naming system for files of storing images.	p.179
	Copyright Info	Sets the copyright information of images.	p.181
	USB Connection	Sets the USB connection mode when connecting to a computer.	p.195
	Video Out	Sets the output format when connecting to an AV device with a video input terminal.	p.183
	HDMI Out	Sets the HDMI output format when connecting to an AV device with an HDMI terminal.	p.184

Menu	Item		Function	Page
🔧3	Eye-Fi		To be set when transferring images using an SD Memory Card with a built-in wireless LAN (Eye-Fi card).	p.185
	LCD Settings		Adjusts the brightness and the color of the display.	p.185
	Power Saving		You can save battery power by setting the display to dim automatically when no operation is performed for 10 seconds.	p.186
	Auto Power Off		Sets the time until the camera turns off automatically.	p.187
	Reset		Resets all settings.	p.192
	Delete All		Deletes all the saved images at once.	p.135
🔧4	Pixel Mapping		Maps out and corrects any defective pixels in the image sensor.	p.190
	Startup Shortcut	Playback Mode	Sets whether to start-up the camera in playback mode.	p.191
		Clock Display	Sets whether to display the clock while the camera is turned off.	p.192
	Format		Formats an SD Memory Card.	p.171

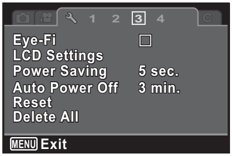
[🔧 Setting 1] menu



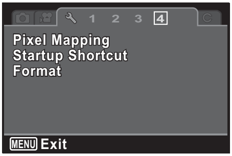
[🔧 Setting 2] menu



[🔧 Setting 3] menu



[🔧 Setting 4] menu



Formatting the Memory

Formatting deletes all the data on the SD Memory Card/built-in memory. Be sure to use this camera to format (initialize) an SD Memory Card that is unused or has been used on other cameras or digital devices.

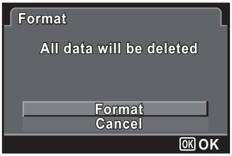
Caution

- Do not open the battery/card cover during formatting as this may damage the card and render it unusable.
- Formatting deletes all the data on the card, including protected images and images recorded with a computer or camera other than this camera.
- SD Memory Cards formatted on a computer or device other than this camera cannot be used. Be sure to format the card with this camera.
- When the SD Memory Card is inserted in the camera, the SD Memory Card will be formatted. To format the built-in memory, be sure to operate after taking out the SD Memory Card.

1 **Use the four-way controller (▲▼) to select [Format] in the [🔧 Setting 4] menu, and press the four-way controller (▶).**

The [Format] screen appears.

2 **Use the four-way controller (▲▼) to select [Format].**



3 **Press the OK button.**

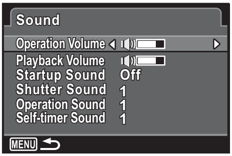
Formatting starts.
When formatting is completed, the camera returns to capture mode.

Changing the Sound Settings

You can adjust the volume of operation and playback sounds and change the type of sound.

1 **Use the four-way controller (▲▼) to select [Sound] in the [🔧 Setting 1] menu, and press the four-way controller (▶).**

The [Sound] screen appears.
Subsequent steps vary depending on your selection.



To Change the Operation Volume/Playback Volume

2 **Use the four-way controller (▲▼) to select [Operation Volume].**

3 **Use the four-way controller (◀▶) to adjust the volume.**

Set the volume to 🔇 to mute the startup sound, shutter sound, operation sound, and self-timer sound.

4 **Change [Playback Volume] in the same way as in Steps 2 and 3.**

5 **Press the MENU button twice.**

The screen that was displayed before selecting the menu appears again.

To Change the Sound Type

2 **Use the four-way controller (▲▼) to select [Startup Sound], and press the four-way controller (▶).**

A pull-down menu appears.

3 **Use the four-way controller (▲▼) to select the sound type.**

Choose [1], [2], [3] or [Off].

4 **Press the OK button.**

5 **Set [Shutter Sound], [Operation Sound] and [Self-timer Sound] in the same way as in Steps 2 to 4.**

6 **Press the MENU button twice.**

The screen that was displayed before selecting the menu appears again.

Changing the Date and Time

You can change the initial date and time settings (p.51). Also, you can change the format in which the date appears on the camera.

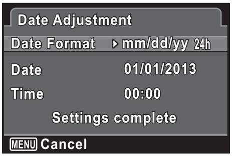
1 **Use the four-way controller (▲▼) to select [Date Adjustment] in the [🔧 Setting 1] menu, and press the four-way controller (▶).**

The [Date Adjustment] screen appears.

2 **Press the four-way controller (▶).**

The frame moves to [mm/dd/yy].

Depending on the initial setting or previous setting, [dd/mm/yy] or [yy/mm/dd] may be displayed.



3 **Use the four-way controller (▲▼) to choose the date format.**

Choose [mm/dd/yy], [dd/mm/yy] or [yy/mm/dd].

4 **Press the four-way controller (▶).**

The frame moves to [24h].

5 **Use the four-way controller (▲▼) to select [24h] (24-hour display) or [12h] (12-hour display), and press the four-way controller (▶).**

The frame returns to [Date Format].

6 **Press the four-way controller (▼).**

The frame moves to [Date].

7 Press the four-way controller (▶).

The frame moves to one of the following items depending on the date format set in Step 3.

Month for [mm/dd/yy]
Day for [dd/mm/yy]
Year for [yy/mm/dd]

The following operations use [mm/dd/yy] as an example. The operations are the same even if another date format has been selected.

8 Use the four-way controller (▲▼) to change the month, and press the four-way controller (▶).

The frame moves to the day field. Use the four-way controller (▲▼) to change the day. After changing the day, change the year in the same manner.

9 Change the time in the same way as in Steps 6 to 8.

If you select [12h] in Step 5, the camera automatically switches the display between am and pm corresponding to the time.

10 Press the four-way controller (▼) to select [Settings complete].

11 Press the OK button.

The date and time settings are saved.

memo

When you press the **OK** button in Step 11, the camera clock is reset to 0 seconds. To set the exact time, press the **OK** button when the time signal (on the TV, radio, etc.) reaches 0 seconds.

Setting the World Time

The date and time selected in “Setting the Date and Time” (p.51) and “Changing the Date and Time” (p.173) serve as the Hometown date and time. If you set the Destination city using the World Time function, you can display the Destination date and time when taking pictures in a different time zone.

To Set the Destination

1 Use the four-way controller (▲▼) to select [World Time] in the [🔧 Setting 1] menu, and press the four-way controller (▶).

The [World Time] screen appears.

2 Use the four-way controller (▲▼) to select [✈ Destination].



3 Press the four-way controller (▶).

The [✈ Destination] screen appears. The city that is currently selected blinks on the map.

4 Use the four-way controller (◀▶) to change the Destination city.

The current time, location and time difference of the selected city appear.



5 Use the four-way controller (▲▼) to select [DST].

6 Use the four-way controller (◀▶) to switch between ☑ (On) and □ (Off).

Select ☑ if the Destination city uses daylight saving time.

7 Press the OK button.

The settings are saved and the [World Time] screen reappears.

8 Press the MENU button twice.

The screen that was displayed before selecting the menu appears again.

memo: Select [⌂ Hometown] in Step 2 to set the city and DST setting for the Hometown city.

5 Settings

To Display the Time of the Destination (Select Time)

1 Use the four-way controller (▲▼) to select [World Time] in the [🔧 Setting 1] menu, and press the four-way controller (▶).

The [World Time] screen appears.

2 Use the four-way controller (▲▼) to select [Select Time], and press the four-way controller (▶).

A pull-down menu appears.



3 Use the four-way controller (▲▼) to select ✈ or ⌂.

- ✈ Displays the time of the Destination city.
- ⌂ Displays the time of the Hometown city.

4 Press the OK button.

The setting is saved.

5 Press the MENU button twice.

The screen that was displayed before selecting the menu appears again.

When ✈ (Destination) is selected, the ✈ icon appears on the guide display to indicate that the Destination date and time are displayed.

Setting the Text Size on the Menu

You can set the text size of the item selected with the cursor on the menu to [Standard] (normal display) or [Large] (magnified display).

1 Use the four-way controller (▲▼) to select [Text Size] in the [🔧 Setting 1] menu, and press the four-way controller (▶).

A pull-down menu appears.

2 Use the four-way controller (▲▼) to select the text size.

Select [Standard] or [Large].

3 Press the OK button.

The setting is saved.

Changing the Display Language

You can change the language in which the menus, error messages, etc. are displayed.

1 Use the four-way controller (▲▼) to select [Language/言語] in the [🔧 Setting 1] menu, and press the four-way controller (▶).

The [Language/言語] screen appears.

2 Use the four-way controller (▲▼◀▶) to select the desired language.

3 Press the OK button.

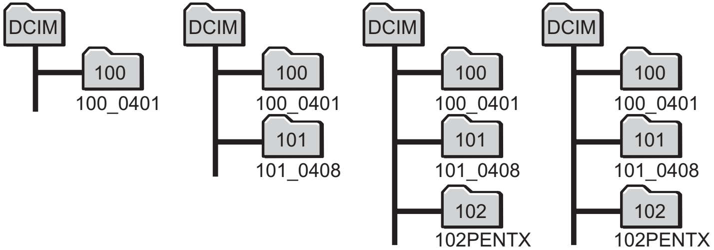
The menus and messages are displayed in the selected language.

Changing the Naming System for Folders

You can change the naming system for folders of storing images. When the naming system is set to [Date], pictures are saved in separate folders by the date they were taken.

Choice	The name of the folder
Date (default)	xxx_mmdd (3-digit folder number_month day) * xxx_ddmm (3-digit folder number_day month) when the date format is set to [dd/mm/yy] A folder is made by day, and the images of the day are saved in the folder.
PENTX	xxxPENTX (xxx is the 3-digit folder number) Up to 9999 images are saved in the same folder.
_USER	xxxAAAAA (xxx is the automatically assigned 3-digit folder number, and AAAAA is the 5-digit letters that you entered) Up to 9999 images are saved in the same folder.

Image taken on April 1 with the folder name setting set to [Date] created.	Image taken on April 8 with the folder name setting set to [Date] created.	Image taken on April 10 with the folder name setting set to [PENTX] created.	Image taken on April 15 with the folder name setting set to [PENTX] created.
A folder with the name “100_0401” is created.	A folder with the name “101_0408” is created.	A folder with the name “102PENTX” is created.	A new folder is not created.
The images are saved in the “100_0401” folder.	The images are saved in the “101_0408” folder.	The images are saved in the “102PENTX” folder.	The images are saved in the “102PENTX” folder.



memo

- Up to 900 folders can be created.
- Up to 9999 images can be saved in a folder.

To Select a Rule for Naming Folders

1 Use the four-way controller (▲▼) to select [Folder Name] in the [🔧 Setting 2] menu, and press the four-way controller (▶).

A pull-down menu appears.

2 Use the four-way controller (▲▼) to select the rule for naming folders.

Select [Date], [PENTX], or [_USER].

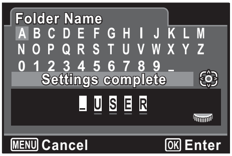
3 Press the OK button.

The setting is saved.

To Name the Folder Yourself

You can name the folder in which to save images.
You can enter up to five numbers and letters.
The 5-digit name is displayed after the 3-digit folder number.

1 Select [_USER] in Step 2 in "To Select a Rule for Naming Folders", and press the four-way controller (▶).



The folder naming screen appears.

"_USER" has already been entered.

2 Use the four-way controller (▲▼◀▶) to select the letter to enter, and press the OK button.

The first letter is fixed and the cursor moves to the second letter.

3 Repeat Step 2 and enter the remaining letters.

4 Press the four-way controller (◀) while "A" is selected, or press (▼▶) while "_" is selected.



The frame moves to [Settings complete].

5 Press the OK button twice.

The folder name is fixed, and returns to the [🔧 Setting 2] menu.

memo

- You can move the cursor for selecting letters by using the e-dial.
- The folder name you have set is displayed in the [🔧 Setting 2] menu.

Changing the Naming System for Files

You can change the naming system for files of storing images.

Choice	The name of the file
IMGP (Default setting)	IMGPxxxx (xxxx is the automatically assigned 4-digit file number) The file number follows the setting character which is specified to the camera.
USER	AAAAxxxx (xxxx is the automatically assigned 4-digit file number) The file number follows the name you have entered.

To Select a Rule for Naming Files

1 Use the four-way controller (▲ ▼) to select [File Name] in the [🔧 Setting 2] menu, and press the four-way controller (▶).

A pull-down menu appears.

2 Use the four-way controller (▲ ▼) to select the rule for naming files.

Select [IMGP] or [USER].

3 Press the OK button.

The setting is saved.

To Name the File Yourself

You can name the file of captured images.
You can enter up to four numbers and letters.
The 4-digit name is displayed before the 4-digit file number.

1 Select [USER] in Step 2 in "To Select a Rule for Naming Files", and press the four-way controller (▶).

The file naming screen appears.
"USER" has already been entered.



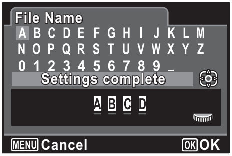
2 Use the four-way controller (▲ ▼ ◀ ▶) to select the letter to enter, and press the OK button.

The first letter is fixed and the cursor moves to the second letter.

3 Repeat Step 2 and enter the remaining letters.

4 Press the four-way controller (◀) while "A" is selected, or press (▼ ▶) while "_" is selected.

The frame moves to [Settings complete].



5 Settings

5 Press the OK button twice.

The file name is fixed, and returns to the [🔧 Setting 2] menu.

memo
- You can move the cursor for selecting letters by using the e-dial.
- The file name you have set is not changed even if you reset the camera.

Setting the Copyright Information

You can embed information of copyright to captured images by specifying a name of photographer or copyright holder.

memo
Copyright information can be added to images recorded in the JPEG or RAW format only. It cannot be added to movies.

To Set the Name of Photographer or Copyright Holder

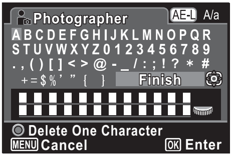
A name up to 32 characters can be specified for indicating the photographer or copyright holder.

1 Use the four-way controller (▲▼) to select [Copyright Info] in the [🔧 Setting 2] menu, and press the four-way controller (▶).



The [Copyright Info] screen appears.

2 Use the four-way controller (▲▼) to select [Photographer] or [Copyright Holder], and press the OK button.



The screen for entering a name appears.

3 Use the four-way controller (▲▼◀▶) to select a character to be entered, and press the OK button.

The first character is registered and displayed in the character entry box and the cursor moves to the second character.

- You can move the cursor using the e-dial.
- Pressing the **AV/AE-L** button switches between upper and lower cases.
- Pressing the ⦿/🗑 button deletes the character selected at the character entry box.

4 Repeat Step 3 for entering all necessary characters.

5 Press the four-way controller (▲▼◀▶) to select [Finish].

6 Press the OK button.

The [Photographer] or [Copyright Holder] you entered is registered and the camera returns to the [Copyright Info] screen.
The registered name is displayed on the screen. When the name is longer than 28 characters, the 28 characters from the beginning are displayed.



7 Press the MENU button twice.

The screen that was displayed before selecting the menu appears again.

To Embed the Copyright Information in a Captured Image

Determine whether to embed the copyright information in a captured image.

1 Use the four-way controller (▲▼) to select [Copyright Info] in the [🔧 Setting 2] menu, and press the four-way controller (▶).

The [Copyright Info] screen appears.

2 Use the four-way controller (▲▼) to select [Embed Info].

3 **Use the four-way controller (◄ ►) to switch between ☑ and □.**

☑ Embeds the copyright information when capturing a image.

□ Does not embed the copyright information (default setting).

4 **Press the MENU button twice.**

The screen that was displayed before selecting the menu appears again.

Changing the Video Output Format

When you take pictures and/or play them back with the camera connected to AV equipment, select an appropriate video output format (NTSC or PAL).

1 **Use the four-way controller (▲ ▼) to select [Video Out] in the [🔧 Setting 2] menu, and press the four-way controller (►).**

A pull-down menu appears.

2 **Use the four-way controller (▲ ▼) to select a video output format.**

Choose [NTSC] or [PAL] to match the format of the connected AV equipment.

3 **Press the OK button.**

The setting is saved.

memo

Depending on the country or region, images and sounds may fail to be played back if the video output format is set differently from the one in use there. If this happens, change the video output format setting.

Connecting the Camera to AV Equipment ☞p.138
Video output format of each city ☞p.223

Selecting the HDMI Output Format

When you connect the camera to AV equipment with an HDMI cable, set the appropriate video output resolution for playing back images. The default setting is [Auto].

1 Use the four-way controller (▲▼) to select [HDMI Out] in the [🔧 Setting 2] menu, and press the four-way controller (▶).

A pull-down menu appears.

2 Use the four-way controller (▲▼) to select an output format.

Choose the HDMI output format to match the format of the connected AV equipment.

3 Press the OK button.

The setting is saved.

The items on the pull-down menu vary depending on the selected Video output format.
To change the display, set the Video output format before setting the HDMI output format.
The table below shows the combinations of the Video output format and HDMI output.

	Video output format	
	NTSC	PAL
Resolution	Auto (The largest size that both the AV device and camera support is automatically selected)	
	1080i (1920×1080i)	
	720p (1280×720p)	
	480p (640×480p)	576p (720×576p)

Setting Eye-Fi Communication

You can automatically transfer images to a computer or similar devices via wireless LAN using a commercially available Eye-Fi card. For details on transferring images, refer to “Transferring Images Using an Eye-Fi Card” (p.201). The default setting is □ (Off).

1 Use the four-way controller (▲▼) to select [Eye-Fi] in the [🔧 Setting 3] menu.

2 Use the four-way controller (◄►) to switch between ☑ and □.

☑ Communicates using an Eye-Fi card.

□ Does not communicate using an Eye-Fi card.

3 Press the OK button.

The setting is saved.

memo

To establish Eye-Fi communication, you first have to specify a wireless LAN access point and transfer destination on the Eye-Fi card. For details on how to set up the card, refer to the operating manual supplied with the Eye-Fi card.

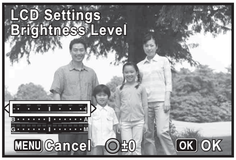
Adjusting the Brightness and the Tone of Colors of the Display

Adjusts the brightness and the tone of colors of the display.

1 Use the four-way controller (▲▼) to select [LCD Settings] in the [🔧 Setting 3] menu, and press the four-way controller (►).

The [LCD Settings] screen appears.

2 Use the four-way controller (▲▼) to select [Brightness Level], [Adjust: Blue-Amber] or [Adjust: Green-Magenta].



Brightness Level	Changes the brightness of the display (-3 to +3).
Adjust: Blue-Amber	Adjusts the tone of colors between blue (B7) and amber (A7).
Adjust: Green-Magenta	Adjusts the tone of colors between green (G7) and magenta (M7).

3 **Use the four-way controller (◀ ▶) to adjust the value.**

Press the ⦿/🗑 button to reset the adjustment value.

4 **Press the OK button.**

5 **Press the MENU button.**

The screen that was displayed before selecting the menu appears again.

Using the Power Saving Function

You can save battery power by setting the display to dim automatically when no operation is performed for a fixed time. After the power saving function has been activated, the display returns to the ordinary brightness if any button is pressed.

1 **Use the four-way controller (▲ ▼) to select [Power Saving] in the [🔧 Setting 3] menu, and press the four-way controller (▶).**

A pull-down menu appears.

2 **Use the four-way controller (▲ ▼) to select the time until the camera enters power saving mode.**

Choose [2min.], [1min.], [30sec.], [15sec.], [5sec.] (default setting) or [Off].

3 **Press the OK button.**

The setting is saved.

- Power Saving does not function in the following situations:
  - While taking pictures in ⧉ (Continuous Shooting), ⧉ (Burst Shooting(L)) or ⧉ (Burst Shooting(H)) mode
  - When the AC adapter is connected
  - In playback mode
  - While recording a movie
  - While the camera is connected to a computer
  - When a menu is being displayed
- When no operation is performed after the camera is turned on, the Power Saving function is activated only after 15 seconds elapse even if [5sec.] is set.

Setting the Auto Power Off Function

You can set the camera to turn off automatically when no operation is performed for a fixed time.

1 Use the four-way controller (▲▼) to select [Auto Power Off] in the [🔧 Setting 3] menu, and press the four-way controller (▶).

A pull-down menu appears.

2 Use the four-way controller (▲▼) to select the time until the camera turns off automatically.

Choose [5min.], [3min.] (default setting) or [Off].

3 Press the OK button.

The setting is saved.

Auto Power Off does not function in the following situations:
- While taking pictures in ⧉ (Continuous Shooting), ⧉ (Burst Shooting(L)) or ⧉ (Burst Shooting(H)) mode
- While recording a movie
- During a slideshow or playback of movies
- While the camera is connected to a computer
- While images are being transferred using an Eye-Fi card

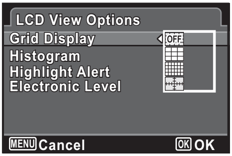
Setting the Display in Capture Mode (LCD View Options)

Sets the display method in capture mode.

1 **Select [LCD View Options] in the [📷 Rec. Mode 3] menu, and press the four-way controller (▶).**

The [LCD View Options] screen appears.

2 **Press the four-way controller (▶), use the four-way controller (▲▼) to select a Grid Display type, and press the OK button.**



Select OFF (Off), ⊞ (3×3 Grid), ▦ (8×6 Grid) or ⊞ (Scale Grid).

3 **Use the four-way controller (▲▼) to select [Histogram], [Highlight Alert], or [Electronic Level], and use the four-way controller (◀▶) to switch between ☑ and □.**

Histogram	Shows the brightness distribution of an image (p.27).
Highlight Alert	Bright (overexposed) portions blink red (p.29).
Electronic Level	Displays the electronic level indication (p.31).

4 **Press the MENU button twice.**

The screen that was displayed before selecting the menu appears again.

memo The [Grid Display] and [Histogram] settings can also be changed using the control panel.

Setting the Initial Menu Tab Displayed

Set the initial menu tab shown on the display when the **MENU** button is pressed.

1 **Select [6. Save Menu Location] in the [C Custom 1] menu, and press the four-way controller (▶).**

The [6. Save Menu Location] screen appears.

2 **Use the four-way controller (▲▼) to select [Reset Menu Location] or [Save Menu Location], and press the OK button.**

1	Reset Menu Location	The [Rec. Mode 1] menu ([Movie 1] menu in mode or [Setting 1] menu in playback mode) is always displayed first. (Default setting)
2	Save Menu Location	The menu tab last selected is displayed first.

3 **Press the MENU button.**

The screen that was displayed before selecting the menu appears again.

Changing the Start-up Screen

You can choose the start-up screen displayed when the camera is turned on.

You can choose any of the following images as the start-up screen:

- The pre-installed screen
- The Guide Display Start-up Screen showing a guide for the shooting modes and buttons
- One of the captured images (compatible images only)

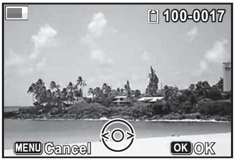
1 **Use the four-way controller (▲▼◀▶) to select (Start-up Screen) from the Playback Mode Palette.**

2 **Press the OK button.**

The image selection screen appears.

3 **Use the four-way controller (◀ ▶) to choose the image for the start-up screen.**

Only images available for the start-up screen are displayed. You can also choose from the Guide Display Start-up Screen and the pre-installed screen already stored in the camera.



4 **Press the OK button.**

The start-up screen is set.

memo

- Once the start-up screen has been set, it will not be deleted even if the original image is deleted or the SD Memory Card/built-in memory is formatted.
- The start-up screen is not displayed when set to [Off].
- The start-up screen is not displayed when the camera starts up in playback mode.
- Images taken at (Digital Panorama) mode and movies cannot be used as the start-up screen.

Correcting Defective Pixels in the Image Sensor (Pixel Mapping)

Pixel Mapping is a function for mapping out and correcting defective pixels in the image sensor. Run the Pixel Mapping function if image dots always seem to be defective in the same place.

Caution

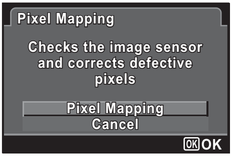
When executing Pixel Mapping, display the [Setting 4] menu in capture mode. Pixel Mapping cannot be selected when the [Setting 4] menu is displayed in playback mode.

1 **Press the MENU button in capture mode to display the [Setting 4] menu.**

2 **Use the four-way controller (▲ ▼) to select [Pixel Mapping], and press the four-way controller (▶).**

The [Pixel Mapping] screen appears.

3 **Use the four-way controller (▲▼) to select [Pixel Mapping].**



4 **Press the OK button.**

Defective pixels are mapped and corrected.

Caution: When the battery level is low, [Not enough battery power remaining to activate Pixel Mapping] appears on the display. Use the AC adapter kit K-AC130 (optional) or replace the battery with one having sufficient power.

Setting the Startup Shortcut

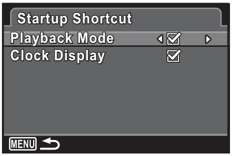
You can start a function by pressing a button other than the power button when the camera is off.

Playback Mode	When [Playback Mode] is ☑ (On), you can turn on the camera by holding the ▶ button pressed.
Clock Display	When [Clock Display] is ☑ (On), you can display the clock on the display by holding the OK button pressed.

1 **Use the four-way controller (▲▼) to select [Startup Shortcut] in the [🔧 Setting 4] menu, and press the four-way controller (▶).**

The [Startup Shortcut] screen appears.

2 **Use the four-way controller (▲▼) to select an item.**



5 Settings

3 **Use the four-way controller (◀ ▶) to switch between ☑ and □.**

☑ The Startup Shortcut is available.
□ The Startup Shortcut is not available.

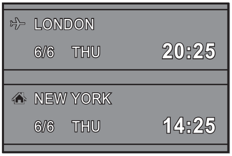
memo The default settings are all ☑.

Displaying the Clock Display

You can use the camera as a clock. With the camera turned off, press and hold down the OK button to display the clock on the display.

1 **Press and hold down the OK button.**

The camera turns on and the clock appears on the screen.
The camera turns off automatically after approximately 10 seconds.
Pressing the power button turns the camera off immediately.



memo To disable the clock display by pressing OK button, set [Clock Display] to □ (Off) on [Startup Shortcut] in the [🔧 Setting 4] menu. (p.191)

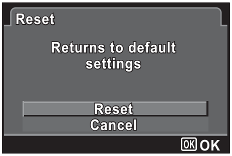
Resetting to Default Settings (Reset)

You can reset the camera settings to their defaults. Refer to “Default Settings” (p.216) for the reset settings.

1 **Use the four-way controller (▲ ▼) to select [Reset] in the [🔧 Setting 3] menu, and press the four-way controller (▶).**

The [Reset] screen appears.

2 Use the four-way controller (▲▼) to select [Reset].



3 Press the OK button.

The settings return to the defaults.

Connecting to a Computer

The captured still pictures and movies can be transferred to a computer by connecting the camera using a USB cable, and RAW images can be developed using the provided software "SILKYPIX Developer Studio 3.0 LE for PENTAX RICOH IMAGING".
We recommend the following system requirements to connect the camera to a computer or to use the software.

● Windows

OS	Windows XP (SP3 or later, 32-bit Home/Pro), Windows Vista (32-bit, 64-bit), Windows 7 (32-bit, 64-bit), Windows 8 (32-bit, 64-bit) • Installation requires administrator rights. • Can be run as a 32-bit application on any 64-bit Edition of Windows.
CPU	Intel Pentium-compatible processor (Pentium 4, Athlon XP or higher recommended) • Supports multi-core processors (Intel Core i5, i7; Core 2 Quad, Duo; AMD Phenom II X4, X6; Athlon II X2, X4; and other).
RAM	1 GB minimum (2 GB or more recommended)
HDD	For installing and starting up the program: 100 MB minimum of free space For saving image files: Approx. 10 MB/file
Monitor	1024×768 dots, 24-bit full color or higher
Other	Input devices such as a keyboard and mouse

● Macintosh

OS	Mac OS X 10.4, 10.5, 10.6, 10.7, or 10.8
CPU	Intel processor-compatible, Power PC
RAM	1 GB minimum (2 GB or more recommended)
HDD	For installing and starting up the program: 100 MB minimum of free space For saving image files: Approx. 10 MB/file
Monitor	1024×768 dots, 24-bit full color or higher
Other	Input devices such as a keyboard and mouse

memo QuickTime is required to play back movies transferred to a computer. You can download it from the following site:
http://www.apple.com/quicktime/download/

Setting the USB Connection Mode

Set the device to which the camera is connected with the USB cable.

Caution Make sure to set the USB Connection mode before connecting your camera to a computer. You cannot perform the following setting if your camera is connected to a computer with the USB cable.

1 Turn your camera on.

2 Use the four-way controller (▲▼) to select [USB Connection] in the [🔧 Setting 2] menu, and press the four-way controller (▶).

A pull-down menu appears.

3 Use the four-way controller (▲▼) to select [MSC].

4 Press the OK button.

The setting is saved.

MSC and PTP

MSC (Mass Storage Class)

A general-purpose driver program that handles devices connected to the computer via USB as a memory device. Also indicates a standard for controlling USB devices with this driver.

By simply connecting a device that supports USB Mass Storage Class, you can copy, read, and write files from a computer without installing a dedicated driver.

PTP (Picture Transfer Protocol)

A protocol that allows transfer of digital images and control of digital cameras via USB, standardized as ISO 15740.

You can transfer image data between devices that support PTP without installing a device driver.

Unless otherwise specified, select MSC when connecting this camera to a computer.

Connecting the Camera and the Computer

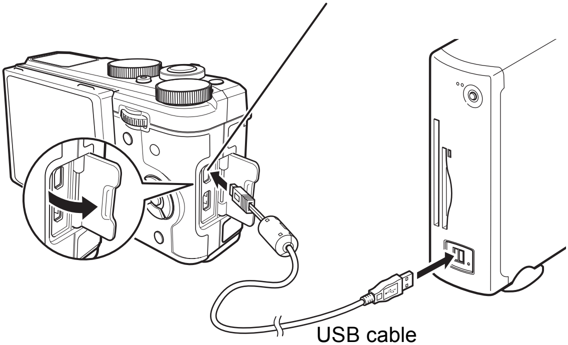
Connect your camera to the computer using the provided USB cable.

1 **Turn the computer on.**

2 **Turn your camera off.**

3 **Connect your camera to the computer using the USB cable.**

Face the ➡ mark on the USB cable towards the ◄ mark on the camera, and connect the cable to the PC/AV terminal.



4 **Turn your camera on.**

The camera is recognized by the computer.

Caution: If the battery runs out of power while images are being transferred to the computer, the image data may be lost or damaged. When connecting your camera to the computer, use of the AC adapter kit K-AC130 (optional) is recommended (p.42).

memo:
- The power lamp blinks while the camera is connected to a computer.
- For information on system requirements, refer to p.194.

To Disconnect the Camera from the Computer

When the camera is being used with an application such as SILKYPIX Developer Studio, first quit the application then disconnect the USB cable from the camera and the computer.

memo

The camera will automatically switch to playback mode when the USB cable is disconnected from the camera or the computer.

Using the Provided Software

“SILKYPIX Developer Studio 3.0 LE for PENTAX RICOH IMAGING” is included on the CD-ROM. With the SILKYPIX Developer Studio, you can develop RAW files, adjust the color of the images and other settings, and save the new images as a JPEG or TIFF file.

Installing the Software

You can install the software from the provided CD-ROM.
When multiple accounts have been setup on a computer, log on with an account that has administrative rights before installing the software.

1 Turn the computer on.

Make sure no other software is running.

2 Place the CD-ROM into the CD/DVD drive on the computer.

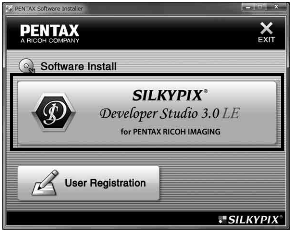
The [PENTAX Software Installer] screen appears.

If the [PENTAX Software Installer] screen does not appear

- **For Windows**
  1 Click [My Computer] from the Start menu.
  2 Double-click the CD/DVD drive icon.
  3 Double-click the [Setup.exe] icon.
- **For Macintosh**
  1 Double-click the CD/DVD icon on the desktop.
  2 Double-click the [PENTAX Installer] icon.

3 Click [SILKYPIX Developer Studio 3.0 LE].

For Macintosh, follow the instructions on the screen to perform subsequent steps.



6
Connecting to a Computer

4 Select the desired language in the [Choose Setup Language] screen, and click [OK].

5 When the [InstallShield Wizard] screen appears in the selected language, click [Next].

Follow the instructions on the screen to perform subsequent steps.

Screen of the SILKYPIX Developer Studio

When SILKYPIX Developer Studio 3.0 LE is launched, the screen on the right appears.

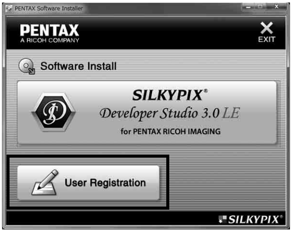


memo: Refer to Help for details on using the software program.

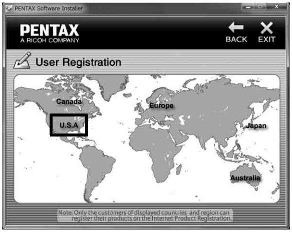
Regarding Product Registration

To better serve you, please take a moment to register your software.

Click [User Registration] on the screen in Step 3 on p.198.



A world map for Internet Product Registration is displayed. If a computer is connected to the Internet, click the displayed country or region and then follow the instructions to register your software.



Note that you can only register online if your country or area is shown.

Transferring Images Using an Eye-Fi Card

You can transfer images to your computer or similar devices automatically when a built-in wireless LAN memory card (Eye-Fi card) is inserted in the camera.

1 Specify the wireless LAN access point and transfer destination on the Eye-Fi card.

For details on how to set up the card, refer to the operating manual supplied with the Eye-Fi card.

2 Turn the camera off.

3 Insert the Eye-Fi card into the camera.

4 Turn the camera on.

5 Select ☑ (On) for [Eye-Fi] in the [🔧 Setting 3] menu.

The images are transferred automatically. For details on how to set up the camera, refer to “Setting Eye-Fi Communication” (p.185).

One of the following icons will appear on the display.

Eye-Fi ▪))	Communicating: When [Eye-Fi] is set to ☑ and the camera is connected to an access point or is searching for an access point.
Eye-Fi ●--	Waiting for communication: When [Eye-Fi] is set to ☑ and is not connected to an access point.
Eye-Fi ⊘	Eye-Fi communication is not allowed: When [Eye-Fi] is set to □ (Off).
Eye-Fi ⚠	Version error: When the version of the Eye-Fi card is out of date or the card is write-protected.

memo

- Endless Memory Mode is not supported.
- Update the Eye-Fi card firmware as necessary before using the card.

Caution

- Copy the Eye-Fi Manager installation file to your computer before formatting the card.
- Images are transferred via wireless LAN. Set [Eye-Fi] to □ (Off), or do not use an Eye-Fi card in locations where the use of wireless LAN devices is restricted or prohibited, such as on airplanes.
- If you insert an older version of Eye-Fi card in the camera, an error message appears.
- Images will not be transferred in the following situations:
  - When available wireless LAN access points cannot be found
  - When the battery level is low (the color of the battery level indicator is red)
- Transferring a large number of images may take a while. Use of the optional AC adapter kit (K-AC130) is recommended.
- Auto Power Off does not function while transferring images.
- The camera may be turned off automatically to protect the internal components when the inside of the camera reaches a high temperature caused by transferring a large file such as a movie.
- Use of a wireless access point, Internet and suitable Internet settings are required to transfer images via wireless LAN. For more information, refer to the website (http://www.eye.fi/).
- For details on how to use an Eye-Fi card, refer to the operating manual supplied with the card.
- In case of malfunction of an Eye-Fi card, refer to the manufacturer of the card.
- Operation is not guaranteed for all Eye-Fi card functions, regardless of whether this camera has the function of turning ON or OFF the wireless communication of an Eye-Fi card.
- Use of an Eye-Fi card is permitted only in the country where the Eye-Fi card is purchased. Observe local and national regulations of the country where the card is to be used.

Memo

Functions Available for Each Shooting Mode

Function	Shooting Mode	AUTO PICT							
Zoom	Optical Zoom	✓	✓	✓	✓	✓	✓	✓	✓
	Digital Zoom	✓	✓	✓	✓	✓	✓	✓	✓
	Intelligent Zoom	✓	✓	✓	✓	✓	✓	✓	✓
Flash Mode	(Auto)	✓	✓	✓	✓	✓	✓	×	×
	(Flash Off)	✓	✓	✓	✓	✓	✓	✓	✓
	(Flash On)	✓	✓	✓	✓	✓	✓	×	×
	(Auto + Red-eye)	✓	✓	✓	✓	✓	✓	×	×
	(Flash On + Red-eye)	✓	✓	✓	✓	✓	✓	×	×
	SLOW (Slow-speed Sync) SLOW (Slow-speed Sync+Red-eye) SLOW (Trailing Curtain Sync)	✓	✓	✓	✓	✓	✓	✓	×
Drive Mode	(Standard)	✓	✓	✓	✓	✓	✓	✓	✓
	(Continuous Shooting)	✓	✓	✓	✓	✓	✓	✓	×
	(Burst Shooting L/H)	✓	✓	✓	✓	✓	✓	✓	×
	(Self-timer) (2-sec. Self-timer)	✓	✓	✓	✓	✓	✓	✓	×
	(3 Shot Self-timer)	✓	✓	✓	✓	✓	✓	✓	×
	(Remote Control) (0-sec Remote Control)	✓	✓	✓	✓	✓	✓	✓	×
	(Auto Bracketing)	✓	✓	✓	✓	✓	✓	✓	×
Focus Mode	AF (Standard)/ (Macro)	✓	✓	✓	✓	✓	✓	✓	✓
	1cm (1cm Macro)	✓	✓	✓	✓	✓	✓	✓	✓
	PF (Pan Focus)	✓	✓	✓	✓	✓	✓	✓	✓
	(Infinity)	✓	✓	✓	✓	✓	✓	✓	✓
	MF (Manual Focus)	✓	✓	✓	✓	✓	✓	✓	✓

(To be continued to p.206)

✓: Can be set. ×: Cannot be set. —: Settings and changes are not applied.

								Shooting Mode	Function
✓	✓	✓	✓	✓	✓	✓	✓	Optical Zoom	Zoom
✓	✓	✓	✓	✓	✓	✓	✓	Digital Zoom	
✓	✓	✓	✓	✓	✓	✓	✓	Intelligent Zoom	
✓	✓	×	✓	✓	✓	✓	✓	(Auto)	Flash Mode
✓	✓	✓	✓	✓	✓	✓	✓	(Flash Off)	
✓	✓	×	✓	✓	✓	✓	✓	(Flash On)	
✓	✓	×	✓	✓	✓	✓	✓	(Auto + Red-eye)	
✓	✓	×	✓	✓	✓	✓	✓	(Flash On + Red-eye)	
✓	✓	×	✓	✓	✓	✓	✓	SLOW (Slow-speed Sync) SLOW (Slow-speed Sync+Red-eye) SLOW (Trailing Curtain Sync)	
✓	✓	✓	✓	✓	✓	✓	✓	(Standard)	Drive Mode
✓	✓	×	✓	✓	✓	✓	✓	(Continuous Shooting)	
✓	✓	×	✓	✓	✓	✓	✓	(Burst Shooting L/H)	
✓	✓	✓	✓	✓	✓	✓	✓	(Self-timer) (2-sec. Self-timer)	
✓	✓	×	✓	✓	✓	✓	✓	(3 Shot Self-timer)	
✓	✓	✓	✓	✓	✓	✓	✓	(Remote Control) (0-sec Remote Control)	
✓	✓	×	✓	✓	✓	✓	✓	(Auto Bracketing)	
✓	✓	×	✓	✓	✓	✓	✓	**AF** (Standard)/ (Macro)	Focus Mode
✓	✓	×	✓	✓	✓	✓	✓	(1cm Macro)	
✓	✓	×	✓	✓	✓	✓	✓	**PF** (Pan Focus)	
✓	✓	✓	✓	✓	✓	✓	✓	(Infinity)	
✓	✓	×	✓	✓	✓	✓	✓	**MF** (Manual Focus)	

Function		Shooting Mode	AUTO PICT							
[Rec. Mode] menu	Custom Image		×*1	×*1	×*1	×*1	×*1	×*1	×*1	×*1
	Capture Settings	Aspect Ratio	✓	✓	✓	✓	✓	✓	✓	✓
		File Format	✓	✓	✓	✓	✓	✓	✓	×*2
		JPEG Recorded Pixels	✓	✓	✓	✓	✓	✓	✓	✓
		JPEG Quality	✓	✓	✓	✓	✓	✓	✓	✓
	White Balance		×*3	×*4	×*4	×*5	×*5	×*6	✓	✓
	AF Setting	Focusing Area	×*8	✓	✓	✓	✓	✓	✓	✓
		AF Mode	✓	✓	✓	✓	✓	✓	✓	✓
		Focus Assist	✓	✓	✓	✓	✓	✓	✓	✓
	AE Metering		×*11	×*11	×*11	×*11	×*11	×*11	✓	✓
	ND Filter		×*12	✓	✓	✓	✓	✓	✓	✓
	HDR Capture		—	—	—	—	—	—	—	—
	D-Range Setting	Highlight Correction	×*13	✓	✓	✓	✓	✓	✓	×*14
		Shadow Correction	×*15	✓	✓	✓	✓	✓	✓	✓
	Distortion Corr.		✓	✓	✓	✓	✓	✓	✓	✓
	Shake Reduction		✓	✓	✓	✓	✓	✓	✓	×*16
	Face Detection		✓ *18	✓ *18	✓	✓	✓	✓	✓	✓
	Blink Detection		✓	✓	✓	✓	✓	✓	✓	✓
	Digital Zoom		✓	✓	✓	✓	✓	✓	✓	✓
	Instant Review		✓	✓	✓	✓	✓	✓	✓	✓
	Memory		✓	✓	✓	✓	✓	✓	✓	✓
	LCD View Options		✓	✓	✓	✓	✓	✓	✓	✓
	Date Imprint		✓	✓	✓	✓	✓	✓	✓	✓

✓: Can be set. ×: Cannot be set. —: Settings and changes are not applied.

								Shooting Mode / Function		
×*1	✓	×*1	×*1	×*1	×*1	×*1	×*1	Custom Image		[Rec. Mode] menu
✓	✓	✓	✓	✓	✓	✓	✓	Aspect Ratio	Capture Settings	
✓	✓	✓	✓	✓	✓	✓	✓	File Format		
✓	✓	✓	✓	✓	✓	✓	✓	JPEG Recorded Pixels		
✓	✓	✓	✓	✓	✓	✓	✓	JPEG Quality		
×*3	×*3	×*7	×*3	×*3	×*3	×*3	×*3	White Balance		
✓	✓	×*8	✓	✓	✓	✓	✓	Focusing Area	AF Setting	
✓	✓	×*9	✓	✓	✓	✓	✓	AF Mode		
✓	✓	×*10	✓	✓	✓	✓	✓	Focus Assist		
×*11	×*11	×*11	×*11	×*11	×*11	×*11	×*11	AE Metering		
✓	✓	✓	✓	✓	✓	✓	✓	ND Filter		
—	—	—	—	—	—	—	—	**HDR** Capture		
✓	✓	✓	✓	✓	✓	✓	✓	Highlight Correction	D-Range Setting	
✓	✓	✓	✓	✓	✓	✓	✓	Shadow Correction		
✓	✓	✓	✓	✓	✓	✓	✓	Distortion Corr.		
✓	✓	✓*17	✓	✓	✓	✓	✓	Shake Reduction		
✓*18	✓	✓	✓	✓	✓	✓*18	✓	Face Detection		
✓	✓	✓	✓	✓	✓	✓	✓	Blink Detection		
✓	✓	✓	✓	✓	✓	✓	✓	Digital Zoom		
✓	✓	✓	✓	✓	✓	✓	✓	Instant Review		
✓	✓	✓	✓	✓	✓	✓	✓	Memory		
✓	✓	✓	✓	✓	✓	✓	✓	LCD View Options		
✓	✓	✓	✓	✓	✓	✓	✓	Date Imprint		

*1 Fixed at [Bright]
*2 Fixed at [JPEG]
*3 Fixed at [AWB]
*4 Fixed at [Auto White Balance] ([AWB] shown on the display)
*5 Fixed at [Daylight] ([AWB] shown on the display)
*6 Fixed at [Shade] ([AWB] shown on the display)
*7 Fixed around 5000K ([AWB] shown on the display)
*8 Fixed at [ ] (Auto)
*9 Fixed at [AF.S]
*10 [Focus Assist] fixed at □ (Off)
*11 Fixed at (Multi-segment)
*12 [ND Filter] fixed at [Auto]
*13 [Highlight Correction] fixed at [Auto]
*14 [Highlight Correction] fixed at [Off]
*15 [Shadow Correction] fixed at □ (Off)
*16 Fixed at [Dual]
*17 [Dual] cannot be selected.
*18 [Off] cannot be selected for [Face Detection].

Function \ Shooting Mode					WIDE			HDR	P
Zoom	Optical Zoom	✓	✓	✓	×	✓	✓	✓	✓
	Digital Zoom	✓	✓	✓	×	✓	✓	✓	✓
	Intelligent Zoom	✓	✓	✓	×	✓	✓	✓	✓
Flash Mode	(Auto)	✓	✓	✓	✓	✓	✓	×	✓
	(Flash Off)	✓	✓	✓	✓	✓	✓	✓	✓
	(Flash On)	✓	✓	✓	✓	✓	✓	×	✓
	(Auto + Red-eye)	✓	✓	✓	✓	✓	✓	×	✓
	(Flash On + Red-eye)	✓	✓	✓	✓	✓	✓	×	✓
	(Slow-speed Sync) (Slow-speed Sync+Red-eye) (Trailing Curtain Sync)	✓	✓	✓	✓	✓	✓	×	✓
Drive Mode	(Standard)	✓	✓	✓	✓	✓	✓	✓	✓
	(Continuous Shooting)	✓	✓	✓	×	×	×	×	✓
	(Burst Shooting L/H)	✓	✓	✓	×	×	×	×	✓
	(Self-timer) (2-sec. Self-timer)	✓	✓	✓	✓	✓	✓	✓	✓
	(3 Shot Self-timer)	✓	✓	✓	×	×	×	×	✓
	(Remote Control) (0-sec Remote Control)	✓	✓	✓	✓	✓	✓	✓	✓
	(Auto Bracketing)	✓	✓	✓	×	×	×	✓	✓
Focus Mode	AF (Standard)/ (Macro)	✓	✓	✓	✓	✓	✓	✓	✓
	(1cm Macro)	✓	✓	✓	×	✓	✓	✓	✓
	PF (Pan Focus)	✓	✓	✓	✓	✓	✓	✓	✓
	(Infinity)	✓	✓	✓	✓	✓	✓	✓	✓
	MF (Manual Focus)	✓	✓	✓	✓	✓	✓	✓	✓

(To be continued to p.210)

✓: Can be set. ×: Cannot be set. —: Settings and changes are not applied.

Tv	Av	M	(Movie)	(Movie fast)	(Movie HS)	(Voice)	Shooting Mode / Function	
✓	✓	✓	✓	✓	✓	✓	Optical Zoom	Zoom
✓	✓	✓	✓	✓	✓	✓	Digital Zoom	
✓	✓	✓	×	×	×	×	Intelligent Zoom	
✓	✓	×	×	×	×	✓	(Auto)	Flash Mode
✓	✓	✓	✓	✓	✓	✓	(Flash Off)	
×	✓	✓	×	×	×	×	(Flash On)	
✓	✓	×	×	×	×	×	(Auto + Red-eye)	
×	✓	✓	×	×	×	×	(Flash On + Red-eye)	
✓	✓	✓	×	×	×	×	(Slow-speed Sync) (Slow-speed Sync+Red-eye) (Trailing Curtain Sync)	
✓	✓	✓	✓	✓	✓	✓	(Standard)	Drive Mode
✓	✓	✓	×	×	×	×	(Continuous Shooting)	
✓	✓	✓	×	×	×	×	(Burst Shooting L/H)	
✓	✓	✓	✓	✓	✓	✓	(Self-timer) (2-sec. Self-timer)	
✓	✓	✓	✓	×	×	×	(3 Shot Self-timer)	
✓	✓	✓	✓	✓	✓	×	(Remote Control) (0-sec Remote Control)	
✓	✓	✓	×	×	×	×	(Auto Bracketing)	
✓	✓	✓	✓	✓	✓	✓	AF (Standard)/ (Macro)	Focus Mode
✓	✓	✓	✓	✓	✓	×	(1cm Macro)	
✓	✓	✓	✓	✓	✓	✓	PF (Pan Focus)	
✓	✓	✓	✓	✓	✓	×	(Infinity)	
✓	✓	✓	✓	✓	✓	×	MF (Manual Focus)	

Function		Shooting Mode		A		WIDE			HDR	P
[Rec. Mode] menu	Custom Image		×*19	×*19	×*19	×*19	×*19	×*19	✓	✓
	Capture Settings	Aspect Ratio	✓	✓	✓	✓	×*20	✓	✓	✓
		File Format	✓	✓	×*21	×*21	✓	✓	×*22	✓
		JPEG Recorded Pixels	✓	✓	✓	×*23	×*24	✓	✓	✓
		JPEG Quality	✓	✓	✓	✓	✓	✓	✓	✓
	White Balance		✓	×*29	✓	✓	✓	✓	✓	✓
	AF Setting	Focusing Area	✓	✓	✓	✓	✓	✓	✓	✓
		AF Mode	✓	✓	✓	✓	✓	✓	✓	✓
		Focus Assist	✓	✓	✓	✓	✓	✓	✓	✓
	AE Metering		✓	×*34	✓	✓	✓	✓	✓	✓
	ND Filter		✓	✓	✓	✓	✓	✓	✓	✓
	HDR Capture		—	—	—	—	—	—	—	—
	D-Range Setting	Highlight Correction	✓	✓	✓	✓	✓	✓	×*38	✓
		Shadow Correction	✓	✓	✓	✓	✓	✓	×*39	✓
	Distortion Corr.		✓	✓	✓	✓	✓	✓	✓	✓
	Shake Reduction		✓*41	✓	✓	✓*41	✓*41	✓	✓*41	✓
	Face Detection		✓	✓	✓	✓	✓	✓	✓	✓
	Blink Detection		✓	✓	✓	✓	×	✓	×	✓
	Digital Zoom		✓	✓	✓	✓	✓	✓	✓	✓
	Instant Review		✓	✓	✓	✓	✓	✓	✓	✓
	Memory		✓	✓	✓	✓	✓	✓	✓	✓
	LCD View Options		✓	✓	✓	✓	✓	✓	✓	✓
	Date Imprint		✓	✓	✓	✓	✓	✓	✓	✓

✓: Can be set. ×: Cannot be set. —: Settings and changes are not applied.

Tv	Av	M	🎥	🎥▶▶	🎥HS	⬬	Shooting Mode / Function		
✓	✓	✓	✓	✓	✓	×*19	Custom Image		[📷 Rec. Mode] menu
✓	✓	✓	✓	✓	✓	×*20	Aspect Ratio	Capture Settings	
✓	✓	✓	✓	—	—	×*21	File Format		
✓	✓	✓	✓	×*25	×*26	×*27	JPEG Recorded Pixels		
✓	✓	✓	—	—	—	×*28	JPEG Quality		
✓	✓	✓	✓	✓	✓	×*29	White Balance		
✓	✓	✓	✓*30	✓*30	✓*30	×*31	Focusing Area	AF Setting	
✓	✓	✓	✓	✓	✓	×*32	AF Mode		
✓	✓	✓	✓	✓	✓	×*33	Focus Assist		
✓	✓	✓	×*34	×*34	×*34	×*34	AE Metering		
✓	✓	✓*35	✓*35	✓*35	✓*35	×*36	ND Filter		
—	—	—	—	—	—	×*37	**HDR** Capture		
✓	✓	✓	✓	✓	✓	×*38	Highlight Correction	D-Range Setting	
✓	✓	✓	✓	✓	✓	×*39	Shadow Correction		
✓	✓	✓	✓	✓	✓	×*40	Distortion Corr.		
✓	✓	✓	—	—	—	×*42	Shake Reduction		
✓	✓	✓	✓	✓	✓	×*43	Face Detection		
✓	✓	✓	—	—	—	×*44	Blink Detection		
✓	✓	✓	✓	✓	✓	×*45	Digital Zoom		
✓	✓	✓	—	—	—	×*46	Instant Review		
✓	✓	✓	✓*47	✓*47	✓*47	×*48	Memory		
✓	✓	✓	✓	✓	✓	×*49	LCD View Options		
✓	✓	✓	—	—	—	×*50	Date Imprint		

*19 Fixed at [Bright]
*20 Fixed at [4:3]
*21 Fixed at [JPEG]
*22 [RAW] cannot be selected.
*23 Fixed at [3M] for the first shot (fixed at [5M] for a composite image)
*24 Fixed at [3M] for the first shot
*25 Fixed at 640×480, 15 fps
*26 Fixed at 640×480, 120 fps
*27 Fixed at the maximum size [12M]
*28 Fixed at [Fine]
*29 Fixed at [AWB]
*30 (Tracking) cannot be selected.
*31 Fixed at [ ] (Auto)
*32 Fixed at [AF.S]
*33 [Focus Assist] fixed at ☑ (On)
*34 Fixed at (Multi-segment)
*35 [Auto] cannot be selected for [ND Filter].
*36 [ND Filter] fixed at [Auto]
*37 Fixed at [Standard]
*38 [Highlight Correction] fixed at [Off]
*39 [Shadow Correction] fixed at □ (Off)
*40 [Distortion Corr.] fixed at ☑ (On)
*41 [Dual] cannot be selected.
*42 Fixed at [Sensor Shift]
*43 [Face Detection] fixed at [On]
*44 [Blink Detection] fixed at ☑ (On)
*45 [Digital Zoom] fixed at ☑ (On)
*46 [Display Time] fixed at [1 sec.], [Zoom Instant Review] fixed at ☑ (On), [Histogram] and [Highlight Alert] fixed at □ (Off)
*47 The Flash/Drive/Focus Mode and MF Position settings specified for Movie mode are stored.
*48 Default value settings
*49 [Grid Display] fixed at [OFF] (Off), [Histogram] and Highlight Alert] fixed at □ (Off), [Electronic Levell] fixed at ☑ (On)
*50 [Date Imprint] fixed at [Off]

Messages

Messages such as the following may appear on the display during camera operation.

Message	Description
Battery depleted	The battery is exhausted. Replace with a new battery (p.39).
Memory card full	The SD Memory Card is full and no more images can be saved. Insert a new SD Memory Card or delete unwanted images (p.44, p.133). Change the number of recorded pixels or quality level of recorded images and try again (p.141).
Memory card error	Shooting and playback are impossible due to a problem with the SD Memory Card. You may be able to display or copy the images on the card using a computer.
The built-in memory is not formatted	The data within the built-in memory are damaged. Format the built-in memory.
Card is not formatted	The SD Memory Card you have inserted is unformatted or has been formatted on a computer or other device and is not compatible with this camera. Format the SD Memory Card in the camera (p.171).
Card is locked	The SD Memory Card is write-protected (p.7).
Compression error	Displayed when the camera fails to compress an image. Change the quality level or recorded pixels of the image and try shooting or saving it again.
Movie recording stopped	Displayed when the internal temperature of the camera has exceeded normal operating limits while recording a movie.
The camera will turn off to prevent damage from overheating	The camera turned off because it has overheated. Wait until it cools down and then turn it back on.
Deleting	Displayed while deleting an image.
No image	There are no images for playback on the SD Memory Card or in the built-in memory.
Unable to play back this image	You are trying to play back an image in a format not supported by this camera. You may be able to play it back on another brand of camera or on your computer.
Image folder cannot be created	The largest file number (9999) has been assigned to an image in the largest folder number (999) and no more images can be saved. Insert a new SD Memory Card or format the card (p.171).
Protected	The image you are trying to delete is protected.

Message	Description
Data being recorded	Displayed when you switch to playback mode while an image is still being recorded, or when the protect setting or DPOF setting is being saved. It disappears after the image is recorded or the setting is saved.
Data being processed	Displayed when the camera takes more than five seconds to display an image due to image processing, or when the SD Memory Card or the built-in memory is being formatted.
Built-in memory full	Displayed if the built-in memory is full when saving a file.
No image can be processed	Displayed when there are no images.
This image cannot be processed	Displayed for files that cannot be processed.
No card in the camera	Displayed when no SD Memory Card is inserted.
Available memory on card is insufficient to copy the images	Displayed when there is insufficient memory on the SD Memory Card to perform copying.
Available built-in memory is insufficient to copy the images	Displayed when there is insufficient built-in memory to perform copying.
Cannot process correctly	Displayed when Red-eye Edit processing fails.
Please pop-up the flash	Slide the ⚡ lever to enable the use of the flash.
Not enough battery power remaining to activate Pixel Mapping	Displayed during pixel mapping if the battery level is insufficient. Install a new battery or use the optional AC adapter kit K-AC130 (p.42).
This card isn't compatible with this camera	Displayed when the version of the Eye-Fi card is outdated and the camera is not compatible with it (p.201).
The version of this Eye-Fi card is outdated	

Troubleshooting

Problem	Cause	Remedy
The camera will not turn on.	The battery is not installed.	Check if a battery is installed. If not, install a battery.
	The battery is exhausted.	Replace the battery with another charged one or use the optional AC adapter kit K-AC130.
No image appears on the display.	The camera is connected to a computer.	The display is off when the camera is connected to a computer.
	The camera is connected to a TV.	The display is off when the camera is connected to a TV.
The display is hard to see.	The brightness level of the display is set too dark.	Adjust the brightness level in [LCD Settings] in the [🔧 Setting 3] menu (p.185).
	Power Saving function is activated.	When the Power Saving function is activated, the display automatically darkens after a certain amount of time. Press any button to return to the normal brightness level. Select [Off] in [Power Saving] in the [🔧 Setting 3] menu to turn the Power Saving function off (p.186).
The shutter will not release.	The flash is charging.	Pictures cannot be taken while the flash is charging. Wait until charging is finished.
	There is no available space on the SD Memory Card or in the built-in memory.	Insert an SD Memory Card with available space or delete unwanted images (p.133).
	Recording	Wait until recording is finished.
The picture is dark when using the flash.	The subject is too far away in a dark environment, such as a night scene.	The picture becomes dark if the subject is too far away. Take pictures within the specified flash range.

Problem	Cause	Remedy
The subject is not in focus.	The subject is difficult to focus on with autofocus.	Lock the focus on an object the same distance away as the subject (by pressing and holding the shutter release button halfway), then aim the camera at your subject and press the shutter release button fully (p.56). Or set the focus manually (p.90).
	The subject is not in the focusing area.	Locate the desired subject in the focus frame (focusing area) in the center of the display. If it is difficult to do so, first lock the focus on the desired subject (focus lock), and then move the camera to recompose. Or, use the (Select) mode to take a picture with the focusing area set on the subject you wish to focus on (p.93).
The flash does not discharge.	The flash is not popped up.	Pop up the flash.
	The flash mode is set to .	Set to (Auto) or (Flash On) (p.84).
	The drive mode is set to , , or . The focus mode is set to . The shooting mode is set to , , or .	The flash does not discharge in these modes.
The flash mode cannot be set.	The flash is not popped up.	Pop up the flash.

Very occasionally, static electricity may cause camera malfunction. In this case, remove the batteies and install them again. If the camera is then working properly, normal condition is restored and you can continue using the camera.

Default Settings

The table below lists the factory default settings.
The meaning of the indications for menu items with a default setting is explained below.

Last Memory Setting

Yes : The current setting (last memory) is saved when the camera is turned off.
No : The setting returns to the default setting when the camera is turned off.
* : The setting depends on the [Memory] setting (p.121).
— : N/A

Reset Setting

Yes : The setting returns to the default setting with the reset function (p.192).
No : The setting is saved even after reset.
— : N/A

● [Rec. Mode] Menu Items

Item		Default Setting	Last Memory Setting	Reset Setting	Page
Custom Image		Bright	Yes	Yes	p.110
Scene Mode[*1]		(Portrait)	Yes	Yes	p.69
Capture Settings	Aspect Ratio	4:3	Yes	Yes	p.98
	File Format	JPEG	Yes	Yes	p.99
	JPEG Recorded Pixels	12M (4000×3000)	Yes	Yes	p.99
	JPEG Quality	Fine	Yes	Yes	p.100
White Balance		AWB (Auto White Balance)	*	Yes	p.100
AF Setting	Focusing Area	[ ] (Auto)	Yes	Yes	p.91
	AF Mode	AF.S (Single)	Yes	Yes	p.92
	Focus Assist	☑ (On)	Yes	Yes	p.92
AE Metering		(Multi-segment)	*	Yes	p.97
ND Filter		Auto	Yes	Yes	p.105
HDR Capture		Standard	Yes	Yes	p.104

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Item		Default Setting	Last Memory Setting	Reset Setting	Page
D-Range Setting	Highlight Correction	Auto	Yes	Yes	p.104
	Shadow Correction	□ (Off)	Yes	Yes	
Distortion Corr.		☑ (On)	Yes	Yes	p.106
Shake Reduction		Sensor Shift	Yes	Yes	p.106
Face Detection		On	*	Yes	p.107
Blink Detection		☑ (On)	Yes	Yes	p.108
Digital Zoom		☑ (On)	*	Yes	p.62
Instant Review	Display Time	1 sec.	Yes	Yes	p.109
	Zoom Instant Review	☑ (On)	Yes	Yes	
	Histogram	□ (Off)	Yes	Yes	
	Highlight Alert	□ (Off)	Yes	Yes	
Memory	Flash Mode	☑ (On)	Yes	Yes	p.121
	Drive Mode	☑ (On)	Yes	Yes	
	Focus Mode	☑ (On)	Yes	Yes	
	Zoom Position	□ (Off)	Yes	Yes	
	MF Position	☑ (On)	Yes	Yes	
	White Balance	☑ (On)	Yes	Yes	
	Sensitivity	☑ (On)	Yes	Yes	
	AE Metering	☑ (On)	Yes	Yes	
	Face Detection	☑ (On)	Yes	Yes	
	Digital Zoom	☑ (On)	Yes	Yes	
	DISPLAY	☑ (On)	Yes	Yes	
	File No.	☑ (On)	Yes	Yes	
LCD View Options	Grid Display	OFF (Off)	Yes	Yes	p.188
	Histogram	□ (Off)	Yes	Yes	
	Highlight Alert	□ (Off)	Yes	Yes	
	Electronic Level	☑ (On)	Yes	Yes	
Date Imprint		Off	Yes	Yes	p.112

*1 Displayed in place of [Custom Image] when **SCN** is selected with the mode dial.

● [Movie] Menu Items

Item	Default Setting	Last Memory Setting	Reset Setting	Page
Custom Image	Bright	Yes	Yes	p.118
Recorded Pixels	Full HD 30 (1920×1080, 30 fps)	Yes	Yes	p.118
Movie SR	☑ (On)	Yes	Yes	p.119
Wind Suppression	□ (Off)	Yes	Yes	p.119
Enable Autofocus	□ (Off)	Yes	Yes	p.120
Enable Optical Zoom	□ (Off)	Yes	Yes	p.120

● [Setting] Menu Items

Item		Default Setting	Last Memory Setting	Reset Setting	Page
Save as **USER**		Cancel	Yes	Yes	p.76
Sound	Operation Volume	3	Yes	Yes	p.172
	Playback Volume	3	Yes	Yes	
	Startup Sound	Off	Yes	Yes	
	Shutter Sound	1	Yes	Yes	
	Operation Sound	1	Yes	Yes	
	Self-timer Sound	1	Yes	Yes	
Date Adjustment	Date Format (date)	Depending on the initial setting	Yes	No	p.173
	Date Format (time)	24h	Yes	No	
	Date	01/01/2013	Yes	No	
	Time	Depending on the initial setting	Yes	No	
World Time	Select Time	⌂ Hometown	Yes	Yes	p.174
	Destination (City)	Depending on the initial setting	Yes	No	
	Destination (DST)	Off	Yes	No	
	Hometown (City)	Depending on the initial setting	Yes	No	
	Hometown (DST)	Off	Yes	No	
Text Size		Standard	Yes	Yes	p.176
Language/言語		Depending on the initial setting	Yes	No	p.177

Item		Default Setting	Last Memory Setting	Reset Setting	Page
Folder Name		Date	Yes	Yes	p.177
File Name		IMGP	Yes	Yes	p.179
Copyright Info	Embed Info	□ (Off)	Yes	No	p.181
	Photographer	blank	Yes	No	
	Copyright Holder	blank	Yes	No	
USB Connection		MSC	Yes	Yes	p.195
Video Out		Depending on the initial setting	Yes	No	p.183
HDMI Out		Auto	Yes	Yes	p.184
Eye-Fi		□ (Off)	Yes	Yes	p.185
LCD Settings	Brightness Level	±0	Yes	Yes	p.185
	Adjust: Blue-Amber	±0	Yes	Yes	
	Adjust: Green-Magenta	±0	Yes	Yes	
Power Saving		5 sec.	Yes	Yes	p.186
Auto Power Off		3 min.	Yes	Yes	p.187
Reset		Cancel	—	—	p.192
Delete All		Cancel	—	—	p.135
Pixel Mapping		Cancel	—	—	p.190
Startup Shortcut	Playback Mode	☑ (On)	Yes	Yes	p.191
	Clock Display	☑ (On)	Yes	Yes	p.192
Format		Cancel	—	—	p.171

● [C Custom] Menu Items

Item	Default Setting	Last Memory Setting	Reset Setting	Page
1. AE-L with AF Locked	1 On	Yes	No*1	p.96
2. Bracketing Order	1 0-+	Yes	No*1	p.88
3. WB When Using Flash	1 Auto White Balance	Yes	No*1	p.102
4. AWB in Tungsten Light	1 Subtle Correction	Yes	No*1	p.102
5. AF with Remote Control	1 On	Yes	No*1	p.89
6. Save Menu Location	1 Reset Menu Location	Yes	No*1	p.188
7. Electronic Shutter	1 Disable	Yes	No*1	—
8. Sensitivity Steps	1 1EV Step	Yes	No*1	p.94

Item	Default Setting	Last Memory Setting	Reset Setting	Page
9. Save Rotation Info	1 On	Yes	No*1	p.131
10. Auto Image Rotation	1 On	Yes	No*1	p.131
Reset Custom Functions	Cancel	—	—	—

*1 Cannot be reset using [Reset] in the [🔧 Setting 3] menu as these items are reset through [Reset Custom Functions] (p.67).

● Playback Mode Palette Items

Item		Default Setting	Last Memory Setting	Reset Setting	Page
Slideshow	Interval	3 sec.	Yes	Yes	p.129
	Screen Effect	Wipe	Yes	Yes	
	Sound Effect	☑ (On)	Yes	Yes	
Image Rotation		Depending on the tilt of the camera	—	—	p.131
Stretch Filter		Center, 8 %	No	No	p.143
Small Face Filter		—	No	No	p.144
Collage	Recorded Pixels	3M (2048×1536)	Yes	Yes	p.150
	Layout	■⁝	Yes	Yes	p.151
	Backgnd.	White	Yes	Yes	p.151
	Select image(s)	—	—	—	p.152
Digital Filter	Apply digital filter	B&W	No	—	p.147
	Recreate filter effects	—	—	—	p.148
	Find original image	—	—	—	p.149
HDR Filter		—	—	—	p.149
Original Frame		—	—	—	p.154
RAW Development	Develop single image	—	—	—	p.158
	Develop multiple images	—	—	—	p.160
Movie Edit		—	—	—	p.161
Red-eye Edit		—	—	—	p.153

Item		Default Setting	Last Memory Setting	Reset Setting	Page
Resize	JPEG Recorded Pixels	Depending on the picture taken	—	—	p.141
	JPEG Quality	Depending on the picture taken	—	—	
Cropping		Depending on the picture taken	—	—	p.142
Image Copy		Built-in memory → SD Memory Card	—	—	p.164
Protect	Single Image	Depending on the recorded image	—	—	p.135
	All Images	Depending on the recorded image	—	—	
DPOF	Single Image	Copies: 0	—	—	p.166
	All Images	Date: □ (Off)	—	—	
Start-up Screen		Default Start-up Screen	Yes	Yes	p.189

● Key Operation

Item		Function	Default Setting	Last Memory Setting	Reset Setting	Page
▶ button		Operation Mode	▶ Mode	—	—	—
Movie button		Operation Mode	Recording starts	—	—	p.116
Zoom lever		Zoom Position	Full wide-angle	*	No	p.60
Four-way controller	▲	Drive Mode	□ (Standard)	*	Yes	p.87
	◀	Flash Mode	⚡A (Auto)	*	Yes	p.84
	▶	Focus Mode	**AF** (Standard)	*	Yes	p.89
	▼	Sensitivity	**AUTO**	*	Yes	p.94
MENU button		Menu Display	[📷 Rec. Mode 1] menu	—	—	p.33
OK button		Display mode switch	Standard	*	Yes	p.22
INFO button		Control panel display	—	—	—	p.24
◉/🗑 button		Current setting item reset/ Image delete	—	—	—	—

7 Appendix

Item	Function	Default Setting	Last Memory Setting	Reset Setting	Page
AV/AE-L button	AE Lock	—	—	—	p.96

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Appendix

List of World Time Cities

City: indicates cities that can be set as either the Initial Setting (p.48) or the World Time (p.174).
Video Output Format: indicates the video output format of the city set as the initial setting.

Region	City	Video Output Format
North America	Honolulu	NTSC
	Anchorage	NTSC
	Vancouver	NTSC
	San Francisco	NTSC
	Los Angeles	NTSC
	Calgary	NTSC
	Denver	NTSC
	Chicago	NTSC
	Miami	NTSC
	Toronto	NTSC
	New York	NTSC
	Halifax	NTSC
Central and South America	Mexico City	NTSC
	Lima	NTSC
	Santiago	NTSC
	Caracas	NTSC
	Buenos Aires	PAL
	Sao Paulo	PAL
	Rio de Janeiro	NTSC
Europe	Lisbon	PAL
	Madrid	PAL
	London	PAL
	Paris	PAL
	Amsterdam	PAL
	Milan	PAL
	Rome	PAL
	Copenhagen	PAL
	Berlin	PAL
	Prague	PAL
	Stockholm	PAL
	Budapest	PAL
	Warsaw	PAL
	Athens	PAL
	Helsinki	PAL
	Moscow	PAL
Africa/ West Asia	Dakar	PAL
	Algiers	PAL
	Johannesburg	PAL

Region	City	Video Output Format
Africa/ West Asia	Istanbul	PAL
	Cairo	PAL
	Jerusalem	PAL
	Nairobi	PAL
	Jeddah	PAL
	Tehran	PAL
	Dubai	PAL
	Karachi	PAL
	Kabul	PAL
	Male	PAL
	Delhi	PAL
	Colombo	PAL
	Kathmandu	PAL
	Dacca	PAL
East Asia	Yangon	NTSC
	Bangkok	PAL
	Kuala Lumpur	PAL
	Vientiane	PAL
	Singapore	PAL
	Phnom Penh	PAL
	Ho Chi Minh	PAL
	Jakarta	PAL
	Hong Kong	PAL
	Beijing	PAL
	Shanghai	PAL
	Manila	NTSC
	Taipei	NTSC
	Seoul	NTSC
	Tokyo	NTSC
	Guam	NTSC
Oceania	Perth	PAL
	Adelaide	PAL
	Sydney	PAL
	Noumea	PAL
	Wellington	PAL
	Auckland	PAL
	Pago Pago	NTSC

Main Specifications

Type	Fully automatic compact digital camera with built-in zoom lens	
Number of Effective Pixels	Approx. 12.0 megapixels	
Image Sensor	1/1.7 inch CMOS	
Number of Recorded Pixels	Still	JPEG: 12M (4000×3000), 9M 16:9 (3968×2232), 10M 3:2 (3984×2656), 9M 1:1 (2992×2992), 7M (3072×2304), 5M 16:9 (3072×1728), 6M 3:2 (3072×2048), 5M 1:1 (2304×2304), 5M (2592×1944), 3M 16:9 (2560×1440), 4M 3:2 (2592×1728), 3M 1:1 (1936×1936), 3M (2048×1536), 2M 16:9 (2048×1152), 2M 3:2 (2016×1344), 2M 1:1 (1536×1536) RAW: DNG * Fixed at 5M in Digital Wide mode, however, the first frame uses 3M. * Fixed at 3M for one frame in Digital Panorama mode.
	Movie	Full HD 30 (1920×1080, 30fps), HD 60 (1280×720, 60fps), HD 30 (1280×720, 30fps)
Sensitivity	With 1EV Sensitivity Step AUTO, Manual (ISO 100, 200, 400, 800, 1600, 3200, 6400, 12800) With 1/3EV Sensitivity Steps AUTO, Manual (100, 125, 160, 200, 250, 320, 400, 500, 640, 800, 1000, 1250, 1600, 2000, 2500, 3200, 4000, 5000, 6400, 8000, 10000, 12800) * The sensitivity is fixed at AUTO (100-12800) in Digital SR mode.	
File Format	Still	RAW (DNG), JPEG (Exif 2.3), DCF 2.0, DPOF, PRINT Image Matching III
	Movie	MPEG-4 AVC/H.264, Approx. 60 fps/30 fps, PCM system, monaural sound, Movie SR (Movie Shake Reduction)
Quality Level	Still	JPEG: Fine, Normal RAW: DNG
	Movie	Fixed at Fine *Unchangeable
Storage Media	Built-in memory (Approx. 75.3 MB), SD Memory Card, SDHC Memory Card, SDXC Memory Card * UHS-1 supported	

Approximate Image Storage Capacity and Recording Time

Still Pictures (when using a 2GB SD Memory Card)

Aspect Ratio	JPEG Recorded Pixels	JPEG Quality		RAW*1
		Fine	Normal	
4:3	12M (4000×3000)	326	653	82
	7M (3072×2304)	516	1205	–
	5M (2592×1944)	778	1499	–
	3M (2048×1536)	1205	2364	–
16:9	9M 16:9 (3968×2232)	435	865	88
	5M 16:9 (3072×1728)	653	1499	–
	3M 16:9 (2560×1440)	975	1921	–
	2M 16:9 (2048×1152)	1921	3235	–
3:2	10M 3:2 (3984×2656)	391	778	86
	6M 3:2 (3072×2048)	653	1205	–
	4M 3:2 (2592×1728)	778	1921	–
	2M 3:2 (2016×1344)	1205	3235	–
1:1	9M 1:1 (2992×2992)	435	865	88
	5M 1:1 (2304×2304)	653	1499	–
	3M 1:1 (1936×1936)	975	1921	–
	2M 1:1 (1536×1536)	1921	3235	–

Still Pictures (when using the built-in memory)

Aspect Ratio	JPEG Recorded Pixels	JPEG Quality		RAW*1
		Fine	Normal	
4:3	12M (4000×3000)	12	25	3
	7M (3072×2304)	20	47	–
	5M (2592×1944)	30	58	–
	3M (2048×1536)	47	94	–
16:9	9M 16:9 (3968×2232)	17	34	3
	5M 16:9 (3072×1728)	25	58	–
	3M 16:9 (2560×1440)	38	76	–
	2M 16:9 (2048×1152)	76	126	–
3:2	10M 3:2 (3984×2656)	15	30	3
	6M 3:2 (3072×2048)	25	47	–
	4M 3:2 (2592×1728)	30	76	–
	2M 3:2 (2016×1344)	47	126	–

Aspect Ratio	JPEG Recorded Pixels	JPEG Quality		RAW[*1]
		Fine	Normal	
1:1	9M 1:1 (2992×2992)	17	34	3
	5M 1:1 (2304×2304)	25	58	–
	3M 1:1 (1936×1936)	38	76	–
	2M 1:1 (1536×1536)	76	126	–

- The image storage capacity is for reference only. The actual image storage capacity may vary depending on the SD Memory Card and the subject.

*1 RAW shows the image storage capacity when JPEG Quality is Fine.

Movies

Recorded Pixels	Built-in Memory	2GB SD Memory Card
Full HD 30 (1920×1080/30 fps)	27 sec.	16 min. 20 sec.
HD 60 (1280×720/60 fps)	36 sec.	16 min. 29 sec.
HD 30 (1280×720/30 fps)	44 sec.	25 min. 58 sec.

- The above figures are based on our standard shooting conditions and may vary depending on the subject, shooting conditions and type of the SD Memory Card used.
- The maximum length of continuous recording time for a movie is 25 minutes.

White Balance	Auto White Balance, Daylight, Shade, Cloudy, Fluorescent Light (Daylight Color/Daylight White/Cool White/Warm White), Tungsten Light, Flash, Manual White Balance	
Lens	Focal Length	6.0 mm - 24.0 mm (Approx. 28 mm - 112 mm in 35 mm equivalent focal length)
	Aperture	F1.8 (W) - F2.5 (T)
	Lens Composition	11 elements in 8 groups (4 aspherical elements)
	Zoom Type	Electrically driven
Optical Zoom	4×	
Intelligent Zoom	7M: Approx. 5.2×, 3M: Approx. 7.8×	
Digital Zoom	Up to approx. 7.8× (when combined with 4× optical zoom)	
Motion Blur Reduction	Still	Sensor-Shift-Type (SR: Shake Reduction), Dual (SR & Pixel Track SR), High-sensitivity anti-shake mode (Digital SR)
	Movie	Movie Shake Reduction (Movie SR)
Display	3.0-inch tiltable LCD with approx. 920,000 dots, AR coating (can be lowered down to approx. 45° or raised upward to approx. 90°)	

Playback Modes	Single-frame, 4-frame, 9-frame, 25-frame, Enlargement (max. 10×, scrollable), Folder Display, Calendar Display, Histogram Display, Grid Display, Deleting Selected Images, Slideshow, Image Rotation, Stretch Filter, Small Face Filter, Collage, Digital Filter, HDR Filter, Original Frame, RAW Development, Movie Playback/Edit (Save as Still Image, Divide Movies, Adding title picture), Red-eye Edit, Resize, Cropping, Image Copy, Protect, DPOF, Start-up Screen	
Focus Modes	Autofocus, Macro, 1cm Macro, Pan Focus, Infinity, Manual Focus, Focusing Area Select (Selectable from among 25 points)	
Focus	Type	TTL contrast detection system by image sensor (Auto, Spot, Tracking, Select changeable)
	Focus range (From lens surface)	Standard : 0.4 m - ∞ (whole zoom area) Macro : 0.05 m - 0.5 m (at wide setting) 0.2 m - 0.5 m (at tele setting) 1cm Macro : 0.01 m - 0.2 m * It is possible to switch to Infinity, Manual Focus or Focusing Area Select. * Face Detection focusing is available only while the camera detects the subject's face.
	Focus Lock	By half-pressing the shutter release button
Exposure Control	Metering system	TTL image sensor metering (Multi-segment/ Center-weighted/Spot)
	EV Compensation	±2 EV (can be set in 1/3 EV steps)
Face Detection	Detection of up to 32 people's faces (up to 31 face detection frames on the display), Smile Capture, Blink Detection * Face Detection AE is available only while the camera detects the subject's face.	
Pet Detection	Registering: 3, Detecting: 1	
Capture Modes	Mode dial: Auto Picture, Scene, HDR, USER, Program, Shutter Priority, Aperture Priority, Manual Exposure, Movie, Green Scene Mode Palette: Portrait, Flower, Landscape, Blue Sky, Sunset, Night Scene, Handheld Night Snap, Night Scene Portrait, Candlelight, Fireworks, Food, Surf & Snow, Pet, Kids, Sport, Digital SR, Text, Candid Capture, Digital Wide, Digital Panorama, Miniature Movie Mode Palette: Movie, Time-Lapse Movie, High Speed Movie	
Digital Filters	B&W, Sepia, Toy Camera, Retro (Original, Blue, Amber), Color (Red, Pink, Purple, Blue, Green, Yellow), Extract Color (Red, Green, Blue), Color Emphasis (Blue, Green, Pink, Red), High Contrast, Starburst (Cross, Heart, Star, Musical Note, Snow), Soft, Fish-eye, Brightness, Miniature, Slim, Invert Color	

Movie	Continuous Recording Time	Movie/Time-Lapse Movie: Approx. 1 second to 25 minutes (however, until the built-in memory or SD Memory Card is full) High Speed Movie: Approx. 1 to 15 seconds (however, until the built-in memory or SD Memory Card is full)
	Still Picture Saving during Movie Recording	Up to three still pictures per each continuous movie recording, with the focus fixed at the start of recording and the number of recorded pixels fixed to 16M. The angle of view may change, depending on the number of recorded pixels for movies. The image may be distorted, depending on recording conditions.
Shutter Speed	1/2000 sec. - 1/4 sec., max. 30 sec. (1/8000 sec. - 30 sec. with Shutter Priority, Manual Exposure, and combination of electronic shutter enabled), Bulb	
Built-in Flash	Modes	Auto, Flash Off, Flash On, Auto + Red-eye, Flash On + Red-eye, Slow-speed Sync, Slow-speed Sync+Red-eye, Trailing Curtain Sync
	Flash Range	Wide-angle: Approx. 0.4 m - 12.2 m (Approx. 1.31 ft - 40 ft) (Sensitivity: in AUTO condition) Telephoto: Approx. 0.4 m - 8.8 m (Approx. 1.31 ft - 29 ft) (Sensitivity: in AUTO condition)
Drive Modes	Single-frame, Continuous Shooting, Burst Shooting (L/H), Self-timer (Approx. 10 sec., 2 sec., 3-shot), Remote Control (Approx. 3-sec, 0-sec), Auto Bracketing	
Self-timer	Electronic control type, control time: Approx. 10 sec., 2 sec.	
Time Function	World Time	75 cities (28 time zones)
Power Source	Exclusive lithium-ion battery D-LI106, AC adapter kit (optional)	
Battery Life	Number of Recordable Images	Approx. 290 pictures * Recording capacity shows approximate number of shots recorded during CIPA-compliant testing (with display on, flash used for 50% of the shots, and 23 degrees centigrade).
	Playback Time	Approx. 280 min. * According to the result of in-house testing. Actual time may differ depending on usage conditions.
	Movie Recording Time	Approx. 90 min. * According to the result of in-house testing. Actual time may differ depending on usage conditions.
Interfaces	USB 2.0 (high-speed compatible), PC/AV terminal, HDMI terminal (Type D (Micro))	
Video Output	NTSC/PAL (monaural)	

Dimensions	Approx. 122.5 (W) × 60 (H) × 51.5 (D) mm (excluding operating or protruding parts)
Weight	Approx. 363 g (excluding batteries and SD Memory Card) Approx. 391 g (including batteries and SD Memory Card)
Accessories	Rechargeable Lithium-ion Battery, Battery Charger, AC Plug Cord, USB Cable, Software (CD-ROM), Lens Cap, Strap, Operating Manual, Quick Guide

WARRANTY POLICY

All PENTAX cameras purchased through authorized bona fide photographic distribution channels are guaranteed against defects of material or workmanship for a period of twelve months from date of purchase. Service will be rendered, and defective parts will be replaced without cost to you within that period, provided the equipment does not show evidence of impact, sand or liquid damage, mishandling, tampering, battery or chemical corrosion, operation contrary to operating instructions, or modification by an unauthorized repair shop. The manufacturer or its authorized representatives shall not be liable for any repair or alterations except those made with its written consent and shall not be liable for damages from delay or loss of use or from other indirect or consequential damages of any kind, whether caused by defective material or workmanship or otherwise; and it is expressly agreed that the liability of the manufacturer or its representatives under all guarantees or warranties, whether expressed or implied, is strictly limited to the replacement of parts as hereinbefore provided. No refunds will be made on repairs by non-authorized PENTAX service facilities.

Procedure During 12-month Warranty Period
Any PENTAX which proves defective during the 12-month warranty period should be returned to the dealer from whom you purchased the equipment or to the manufacturer. If there is no representative of the manufacturer in your country, send the equipment to the manufacturer, with postage prepaid. In this case, it will take a considerable length of time before the equipment can be returned to you owing to the complicated customs procedures required. If the equipment is covered by warranty, repairs will be made and parts replaced free of charge, and the equipment will be returned to you upon completion of servicing. If the equipment is not covered by warranty, regular charges of the manufacturer or of its representatives will apply. Shipping charges are to be borne by the owner. If your PENTAX was purchased outside of the country where you wish to have it serviced during the warranty period, regular handling and servicing fees may be charged by the manufacturer's representatives in that country. Notwithstanding this, your PENTAX returned to the manufacturer will be serviced free of charge according to this procedure and warranty policy. In any case, however, shipping charges and customs clearance fees to be borne by the sender. To prove the date of your purchase when required, please keep the receipt or bills covering the purchase of your equipment for at least a year. Before sending your equipment for servicing, please make sure that you are sending it to the manufacturer's authorized representatives or their approved repair shops, unless you are sending it directly to the manufacturer. Always obtain a quotation for the service charge, and only after you accept the quoted service charge, instruct the service station to proceed with the servicing.

- **This warranty policy does not affect the customer's statutory rights.**
- **The local warranty policies available from PENTAX distributors in some countries can supersede this warranty policy. Therefore, we recommend that you review the warranty card supplied with your product at the time of purchase, or contact the PENTAX distributor in your country for more information and to receive a copy of the warranty policy.**

CE The CE Mark is a Directive conformity mark of the European Union.

For customers in USA
STATEMENT OF FCC COMPLIANCE

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
Changes or modifications not approved by the party responsible for compliance could void the user's authority to operate the equipment.
This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules.
These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.
If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
  Increase the separation between the equipment and receiver.
  Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

* Consult the dealer or an experienced radio/TV technician for help.

For customers in Canada

This Class B digital apparatus complies with Canadian ICES-003.

Pour les utilisateurs au Canada

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

FOR CALIFORNIA, U.S.A. ONLY

Perchlorate Material-special handling may apply. The lithium battery used in this camera contains perchlorate material, which may require special handling. See www.dtsc.ca.gov/hazardouswaste/perchlorate

Declaration of Conformity

According to 47CFR, Parts 2 and 15 for

Class B Personal Computers and Peripherals

We: PENTAX RICOH IMAGING AMERICAS CORPORATION

Located at: 633 17th Street, Suite 2600
Denver, Colorado 80202 U.S.A.
Phone: 800-877-0155 Fax: 303-790-1131

Declare under sole responsibility that the product identified herein complies with 47CFR Parts 2 and 15 of the FCC rules as a Class B digital device. Each product marketed is identical to the representative unit tested and found to be compliant with the standards. Records maintained continue to reflect the equipment being produced can be expected to be within the variation accepted, due to quantity production and testing on the statistical basis as required by 47CFR §2.909. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation. The above named party is responsible for ensuring that the equipment complies with the standards of 47CFR §15.101 to §15.109.

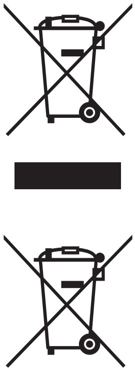
Product Name: Digital Camera

Model Number: PENTAX MX-1

Contact person: Customer Service Manager

Date and Place: January, 2013, Colorado

Information for Users on Collection and Disposal of Old Equipment and Used Batteries



1. In the European Union

These symbols on the products, packaging and/or accompanying documents mean that used electrical and electronic equipment and batteries should not be mixed with general household waste.

Used electrical/electronic equipment and batteries must be treated separately and in accordance with legislation that requires proper treatment, recovery and recycling of these products.

By disposing of these products correctly you will help ensure that the waste undergoes the necessary treatment, recovery and recycling and thus prevent potential negative effects on the environment and human health which could otherwise arise due to inappropriate waste handling.

If a chemical symbol is added beneath the symbol shown above, in accordance with the Battery Directive, this indicates that a heavy metal (Hg = Mercury, Cd = Cadmium, Pb = Lead) is present in the battery at a concentration above an applicable threshold specified in the Battery Directive.

For more information about collection and recycling of used products, please contact your local authorities, your waste disposal service or the point of sale where you purchased the products.

2. In other countries outside the EU

These symbols are only valid in the European Union. If you wish to discard used products, please contact your local authorities or dealer and ask for the correct method of disposal.

For Switzerland: Used electrical/electronic equipment can be returned free of charge to the dealer, even when you don’t purchase a new product. Further collection facilities are listed on the home page of www.swico.ch or www.sens.ch.

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7 Appendix

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Memo

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PENTAX RICOH IMAGING DEUTSCHLAND GmbH	Julius-Vosseler-Strasse 104, 22527 Hamburg, GERMANY (http://www.pentax.de)
PENTAX RICOH IMAGING UK LTD.	PENTAX House, Heron Drive, Langley, Slough, Berks SL3 8PN, U.K. (http://www.pentax.co.uk)
PENTAX RICOH IMAGING AMERICAS CORPORATION	633 17th Street, Suite 2600, Denver, Colorado 80202, U.S.A. (http://www.pentaximaging.com)
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http://www.pentax.jp/english

- Specifications and external dimensions are subject to change without notice.

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